Responses to Public Comments on the NPDES permit for the Spokane County Regional Water Reclamation Facility

Table of Contents

Responses to Public Comments on the NPDES permit for the Spokane County Regional Water Reclamation Facility.

1. Mr. Charles Barr Comments

Comments received from Mr. Barr via email Thursday August 4, 2011 1200 PM (Copy of email attached at end of responses)

Comment 1: Cities of Spokane and Liberty Lake, as well as businesses Inland Empire Paper and Kaiser Aluminum, currently discharge waste into the Spokane River in a very short distance. How much waste is too much? How clean is clean? As science progresses, are today's clean standards adequate for tomorrow? What environmental or health issues may arise from too much waste discharged into the river?

Ecology Response to Comment 1: Ecology recognizes your concern about discharges to the Spokane River and has applied the available science including TMDLs for many of the potential pollutants. The permit complies with the TMDLs.

Comment 2: This treatment plant will surely malfunction at some time in the future. Is there adequate storage or alternate dump sites for untreated waste for an extended period of time?

Ecology Response to Comment 2: Wastewater treatment systems are designed, built and operated with multiple redundancies thereby allowing operators to identify problems as they develop so they can be solved before they become a problem. In the case of the new Spokane County Regional Water Reclamation Facility, if the effluent quality is not meeting permit requirements, the effluent will be diverted to the North Valley or South Valley Interceptor.

Comment 3: Have test wells indicated actual pollution to our aquifer making this plant necessary? Or is this solely to facilitate developers? Our local water district, Trentwood Irrigation sends us a report every year indicating there has been no deterioration of our water quality.

Ecology Response to Comment 3: Groundwater monitoring does show elevated nitrate levels in some portions of the aquifer.

Comment 4: It would seem prudent that sparsely populated areas continue with onsite septic disposal, which has not been a problem. This would reduce the volume at the waste treatment plant.

Ecology Response to Comment 4: Unfortunately, onsite disposal systems rely on soils and soil bacteria to remove many pollutants. The soils above the aquifer are not adequate to protect groundwater or the river.

Comment 5: It seems all government entities want to continue growing their kingdoms. In our present day economy, larger and more expensive facilities are not always best for residents.

Ecology Response to Comment 5: In some cases, it is feasible to rely on multiple smaller treatment facilities. That is an option the county considered and determined to be infeasible.

Comments received from Mr. Barr via email Tuesday August 9, 2011 3:40 PM
(Copy of email attached at end of responses)

Comment 6: Eight million gallons of treated sewage daily is an enormous amount of discharge into the Spokane River.

How will this daily discharge affect the river levels at the high water line? How will it affect property during flooding? Upriver Drive, the Centennial Trail and other areas downstream are already affected by flooding.

Ecology Response to Comment 6: While 8 million gallons each day may seem like a lot of water, this is insignificant compared to Spokane River flows. Discharge to the river at the proposed outfall is not expected to increase flooding.

Comment 7: At the opposite spectrum, how will discharges affect water quality when levels are low? Will the Spokane River falls start foaming? Stinking?

Ecology Response to Comment 7: The permit is conditioned to protect water quality; the effluent quality will not cause odors or foam in the river.

Comment 8: Will this treated wastewater create a new super-strain of bacteria, algae, or what other unhealthy problems for humanity, fish, fowl and wildlife?

Ecology Response to Comment 8: The permit is conditioned to protect water quality. That includes considerations of all beneficial uses of the river including humans, fish and fowl. Neither the treatment process nor the resulting effluent creates new strains of bacteria.

2. Avista Comments:

(Copy of Avista comment letter attached at end of responses)

Comment 1: Beginning on page 7, the draft permit includes a series of effluent limit tables for oxygen consuming pollutants. Each table contains a column heading the reads "Season Limit Applies March 1 to October 31 / See notes f and g." Note f, which appears on page 10of the draft permit, states that: "Compliance with the effluent limitations for $CBOD_5$, NH3-N and TP will be based on ... a combining of the effluent quality, pollutant in terms of equivalencies in terms of oxygen depletion and the TMDL and pollutant credit earned from implementation of the Offset Plan, following public review and comment and then Ecology approval." This is the only reference to an Offset Plan that we have found in the draft permit, and it is not referenced at all in the Fact Sheet. Please identify the Offset Plan that is being referred to. Has it already been written and if so, where is it available for review? If not, when will it be written and distributed for review?

Ecology issued a draft Water Quality Trading Framework paper for public review in the fall of 2010. We understand from an Ecology memo dated April 20, 2011, that the Framework will not finalized, but instead will be a "living document."
Does Ecology intend that the Offset Plan referred to in the draft permit be consistent with the draft Trading Framework, as modified by the Response to Comments the Ecology issued in April 2011?

Finally, please explain how Spokane County will combine effluent quality, pollutant equivalencies, and pollutant credit earned from implementation of the Offset Plan to determine compliance with effluent limitations simply by reviewing their Discharge Monitoring Reports (DMRs). Will the County's report include the combined figures from the above, as authorized by note f, in its DMRs? If not, how will Ecology and others determine whether the County is in compliance with the effluent limitations in the permit?

Ecology Response to Comment 1: The offset plan is identified and discussed in the Wastewater Facilities Plan. However, the public comment version of the permit did not state how that offset was to be administered. The county has submitted a proposal with 2 scenarios for using an offset during facility start up in case of excursions while learning to optimize performance of a new treatment system. One scenario anticipates using 1 lb/day of offset total phosphorus (TP) removed by septic tank eliminations and the other scenario anticipates using 2 lbs/day TP. Language for using the offset has been added to S1.B and has instructions for reporting the quantity of offset used.

> During the start up period, 2011, 2012 and 2013, the Permittee may use the "offset" total phosphorus from septic tank eliminations identified in the approved wastewater facilities plan as amended in November 2011, to offset the DO depleting value of $CBOD_5$, total ammonia, or total phosphorus up to the value of the total phosphorus used in the approved offset scenario submitted to and approved by Ecology. The amount of offset used for this is to be identified in the transmittal letter accompanying the monthly discharge report, DMR. The transmittal letter will maintain a running total of offsets used through the applicable "season." A report summarizing the offsets used from March 1 to October 31 must accompany the submission of the October DMR.

The proposed scenarios for using an offset are being evaluated by Ecology and will be presented to the DO TMDL advisory committee for comment January 19, 2012. Ecology will make its decision after the DO TMDL advisory committee meeting.

For both the offset proposal and the equivalency proposal, CE-QUAL-2W model runs were made. The impact on DO is evaluated on the same criteria that Ecology and EPA used for the IEP and Idaho request for an extended nutrient removal season. The criteria are:

> "The alternate scenario must not increase the spatial or temporal extent of Avista responsibilities after results are rounded to 0.1 mg/L."
>
> "The alternate scenario must not decrease the dissolved oxygen concentration averaged across all Avista affected segments and times."
>
> "The alternate scenario must not increase Avista's responsibilities in any segment or time, after results are rounded to 0.1 mg/L."

Comment 2: On page 25 of the draft permit, it states that: "The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system." For clarity, please specify the sewer ordinances referred to in this condition.

Ecology Response to Comment 2: The appropriate County sewer ordinances can be found at county ordinance section 8.03.3200, "Prohibited Uses of Sanitary Sewer":

(a) No person may discharge or cause to be discharged any storm sewage or stormwater into a sanitary sewer. (cross reference to Section 8.03.9160)

This implements Ecology rules in WAC 173-216-060(2)(b)(vii) Prohibited Discharges.

Comment 3: On page 35 of the draft permit, it states that: "The Permittee must collect information on the effluent and receiving water, upstream and downstream, to determine if the effluent has impacted beneficial uses or water quality standards."

(a) Please specify how far downstream the receiving water study must extend.

(b) How will the results of the receiving water study be used? In particular, if the receiving water study shows that the Spokane County effluent impacts downstream beneficial uses or violates downstream water quality standards, what changes would be made to the terms of the permit and when would these changes be made?

Ecology Response to Comment 3: The downstream location is defined by either the extent of the mixing zone or the first downstream location that allows for safe access for monitoring. In this case, monitoring will be from the Greene Street Bridge.

The object is to compare upstream and downstream water quality, specifically Temperature, metals, pH hardness, alkalinity and nitrogen speciation. If the discharge impacts water quality, changes in the treatment process will be pursued.

Comment 4: On page 37 of the draft permit, it states that: "The Permittee may conduct a cooperative receiving water study with other "NPDES Permittees discharging in the same vicinity." Does Ecology intend that there be a coordination between the receiving water study or studies conducted by the dischargers and monitoring to be conducted by Avista under its Water Quality Attainment Plan? Has Ecology considered what to do if contradictory conclusions are reached through the various studies and monitoring results? Will these studies be directed by the TMDL Implementation Advisory Committee?

Ecology Response to Comment 4: Based on discussion of receiving water monitoring, Ecology anticipates cooperative monitoring efforts. The DO TMDL Advisory Committee will focus on nutrients and their impact on DO. The Spokane River Regional Toxics Task Force will focus on the toxicants listed in the NPDES permits. If receiving water studies result in contradictory conclusions, Ecology will need to evaluate the basis for the specific contradiction(s).
Comment 5: On page 15 of the Fact Sheet, what is the purpose of Table 5. "Conventional Ambient Background Date," particularly the reference to dissolved oxygen (DO) as having a "Value Used" of 12.86 to 8.3 mgL? In other words how do these ambient DO values affect the actual terms of the NPDES permit?

Ecology Response to Comment 5: Table 5 lists the water quality modeling input parameters needed to assess reasonable potential to pollute.

3. Spokane Tribal Natural Resource Department Comments

(Copy of Spokane Tribal comment letter attached at end of responses)

Comment 1: Condition S13 Regional Toxics Task Force

After receipt of the Tribe's May 27 , 2011 letter to EPA, the Tribe's technical and legal staff has been in active and on-going discussions and addressing the Tribe's concerns about PCBs with the WDOE and EPA. Those concerns revolve around the lack of final PCB TMDL being in place while a new discharge of PCBs, the County, receives an NPDES permit. In response to environmental groups' and the Tribe's concerns, the County proposed a Regional Toxics Task Force ("Task Force") as a mechanism to allow the County to obtain a permit prior to the requirements of 40 C.F. R. Section 122.4(i) being met.

At this time, the Tribe is cautiously supportive of the Task Force as described in section S13 of the draft County permit as an alternative means of meeting the requirements of 40 C.F. R. Section 122.4(i). However, the Tribe withholds its full support until the framework and funding details of the Task Force are known, and the Tribe is convinced that the Task Force will in fact have the capability of providing the same level of PCB reductions as a finished and enforceable PCB TMDL.

Additionally, the Tribe is very concerned about Kaiser Aluminum's appeal of their final NPDES permit, and its potential effects on the Task Force's implementation and development. Throughout, the development of the Dissolved Oxygen TMDL, the dischargers and other business interests routinely complained about the process and indicated that they could do a better and more efficient job of creating a clean-up plan. The creation of this Task Force will be an opportunity for those interests and entities to try their hand at developing an effective plan to reduce pollution in the River, and to bring it into compliance with applicable water quality standards. Unfortunately, the Kaiser appeal indicates that some of the interests many not be willing participants. The Tribe hopes that the Kaiser appeal is simply a bump along the road of creating the Task Force.

Ecology Response to Comment 1: The concern and cautionary note is acknowledged.

Comment 2: Discharge Limits

EPA regulations require that all NPDES permits issued meet applicable water quality standards, 40 C.F. R. Section 122.4(d). As shown through previous Tribe, EPA and WDOE modeling, on the Lower Arm of the Spokane River, the current loading scenario of the TMDL do not meet the Tribe's dissolved oxygen standards.
The modeling determined that the primary limiting factor for the failure to meet the Tribe's water quality standards for dissolved oxygen was sediment oxygen demand ("SOD").

As raised in the Tribe's November 17, 2010 comments on the other draft NPDES permits and the June 2011 Inland Empire Paper Company amended draft permit, the Tribe recommends that the dischargers be required to maintain low levels of oxygen demanding pollutants year round. This recommendation is based on the significant increase in pollutant concentrations in the Tribe's waters during the winter months that contribute to the SOD problem seen during the critical season. Furthermore, Portland State's modeling clearly indicated that discharges in all of the winter months cause and contribute to water quality violations in the critical season. The Tribe reiterates this concern again here. The Tribe strongly urges WDOE to require in this new permit year-round effluent limits for CBOD, P and Ammonia.

Ecology Response to Comment 2: During development of the DO TMDL year round limits on DO depleting parameters were considered.

But no benefits were predicted for river and lake DO. On the basis that the DO TMDL provides the needed improvement in river and lake DO, the DO TMDL has been approved and the permit conditions implement the approved DO TMDL. The County permit is conditioned with ongoing monitoring of nutrients and DO. The permit is conditioned with a presumption of a reassessment of water quality and the DO TMDL after the ten years of implementation.

Comment 3: Technical Error on page nine section S1.C under Total PCBs, it states see sections S13, S14, and footnote h." There is no S14.

Ecology Response to Comment 3: The correction has been made.

4. Sierra Club Upper Columbia River Group and the Center for Environmental Law & Policy Comments

Comment 1: The Tier II anti-degradation requirements for a new discharge are disregarded and should be a basis for denial of the permit. Each water quality parameter with reasonable potential to be impacted should be quantified, along with demonstration of how it will not be degraded from existing conditions. This should include all potential toxins created in the chlorinated disinfection process

Ecology's Response to Comment 1:
Ecology did not disregard the anti-degradation requirements. Tier II applies to waters of a higher quality than the criteria assigned and prohibits degradation of such waters unless a lowering of water quality is necessary and in the overriding public interest. The water quality of the Spokane River does not meet the criteria for imposing tier II anti-degradation requirements.

Comment 2: New proposed limits differ from the approved Dissolved Oxygen TMDL. These limits cannot be included in the permit unless and until the TMDL is formally modified.

Ecology's Response to Comment 2: The effluent limits for $CBOD_5$, TP and Ammonia are equivalent to the DO TMDL and are therefore compliant with the DO TMDL. The authority for offsets is in the water quality standards (WAC 173-201A-450).

Comment 3: Spokane River water quality conditions that are better than the assigned water quality criteria, even if seasonally, define the target concentrations to be met at the edge of the allowable mixing zone. The new discharge cannot degrade existing water quality conditions. AKART for each such pollutant must be identified and implemented before a discharge can be permitted.

Ecology's Response to Comment 3: Ecology does not believe that the authorized discharge from the County's new facility will degrade existing water quality conditions. To the contrary, Ecology believes the County's facility will improve existing water quality conditions. The Permit not only requires AKART, but in many instances requires the County to go beyond AKART because water quality based effluent limits are generally more stringent than AKART in the Spokane River.

Comment 4: Chlorine disinfection is not AKART. It introduces unnecessary pollutants into the river including potential carcinogens that would not be present using other disinfection methods such as ultra-violet. The formation and discharge of these pollutants is counter to the Tier II anti-degradation concept.

Ecology's Response to Comment 4: Chlorine disinfection is AKART. The concern about byproducts was considered. The original proposal was for UV disinfection. During environmental review the City of Spokane pointed out that UV disinfection is not as effective as chlorine when viruses are considered. The aquifer turns north in this vicinity toward City water supply wells and the City requested chlorine disinfection for a more robust protection of public health.

Comment 5: The fecal bacteria effluent limits are not consistent with the justification in the fact sheet and ignore Tier II anti-degradation. Water quality-based limits using existing water quality should be the basis of the permit limit.

Ecology's Response to Comment 5: Water quality standards are being met at the edge of a rather small dilution zone.

Comment 6: Spokane Valley industrial user wastewater will be less dilute from domestic sources than influent to the existing Spokane City plant. Thus, higher concentrations of toxic chemicals will enter the County plant from industrial sources and likely be present in the effluent. This analysis is absent in the permit/fact sheet.

Ecology's Response to Comment 6: The County has a delegated pretreatment program that will protect the treatment process and the receiving water. The program includes source identification and permitting of significant industrial users.

Comment 7: There is no technical basis presented to support selection of the effluent limits for toxic compounds. The calculations should clearly present and explain the basis for these limits.

Ecology Response to Comment 7: The permit implements the metals TMDL and uses the more stringent of either a water quality based effluent limit or a performance based effluent

Comment 8: The only technical evaluation presented in the fact sheet is for ammonia and shows the maximum expected effluent concentration to be 13 ug/L and the critical pH to be 7.0. Yet the permit authorizes more than a thousand times higher concentration of ammonia and allows the effluent to be discharged at a pH of 9.0, which will exacerbate ammonia toxicity. Meanwhile, the receiving stream critical conditions seem to be fabricated for the river reach where the discharge will occur and do not conform to the DO TMDL modeling of 2001 critical conditions.

Ecology Response to Comment 8: The 13 ug/L value you are commenting about is a calculated value that yields no reasonable potential. Never the less the calculated value is based on a data input error. The concentration input for maximum effluent concentration in the section above was 8 ug/L instead of 8 mg/L. It is still a mistake in data entry and will be corrected. After recalculation the result remains as no reasonable potential, see appendix F. The receiving water conditions are not a fabrication, the input data does represent conditions in a segment that is not impaired for ammonia toxicity and has a limited amount of data relevant to this reasonable potential calculation.

Comment 9: Concentration limits must be based on approved design performance, along with mass loading limits to prevent operation of the plant at less than peak performance at all times.

Ecology Response to Comment 9: The wastewater facilities plan was updated after the DO TMDL was submitted to the USEPA. The design is complying with the DO TMDL. The design is based on the approved loadings identified in the wastewater facilities plan and the approved performance provides compliance with the DO TMDL.

Comment 10: It is inappropriate to include no limit for PCB in a new discharge permit for a discharge where the River is already water quality limited for PCBs.

Ecology Response to Comment 10: The Toxics Source Control Action Plan in permit condition S12. and the Spokane River Regional Toxics Task Force in permit condition S13. constitute effluent limitations as defined in the Clean Water Act.

Comment 11: Moreover, it is illegal to permit a new source to discharge PCBs, dioxins and other water quality parameters listed on the 303(d) list if no TMDL is in place to demonstrate that the River is capable of meeting the relevant water quality standards with the new discharge, including both Washington state and Spokane Indian Tribe standards.

Ecology Response to Comment 11: The Spokane County Regional Water Reclamation Facility is discharging to a water segment which is not on the 303(d) list for PCB, Dioxins, Temperature, Total Dissolved Gas, Lead, Zinc and Cadmium.

Comment 12: Requiring only 4 PCB samples per year will fail to characterize the significant discharges for a PCB limited water body and development of cleanup plan.

Ecology's Response to Comment 12: The quarterly monitoring is for the effluent only and is sufficient to characterize PCB discharges and calculate performance based effluent limitations. The influent is to be monitored bi-monthly. The Permittee is required to submit and annually update a monitoring plan and Toxics Management Report including source identification and cleanup elements.

Comment 13: Applying City of Spokane 30-year old performance-based numbers to a new construction discharge permit for metals in a metals-limited stream is inappropriate. The metals partitioning language is not appropriate because this discharge is not part of the Spokane River metals TMDL.

Ecology's Response to Comment 13: The City's metal effluent limitations are recalculated each permit cycle and are very current. The new County Treatment Facility has membrane filtration that is expected to remove metals to below current effluent limitations.

Comment 14: The Regional Toxics Task Force provisions are vague and unenforceable, and do not substitute for either a PCB TMDL or appropriate effluent limits.

Ecology's Response to Comment 14: The Spokane River Regional Toxics Task Force permit conditions are neither vague nor unenforceable. The Regional Toxics Task Force is an opportunity to bring the Spokane River into compliance with applicable water quality standards. The Spokane River Regional Toxics Task Force permit conditions are appropriate effluent limitations.

5. Spokane County Comments on NPDES permit WA-0093317

(Copy of Spokane County comment letter attached at end of responses)

Spokane County Cover Letter – Key Comments

County Cover Letter Comment 1:

Single Effluent Limits Table

For clarity and simplification in establishing effluent limits, Table S1.B.a should be retained as the single effluent limits table in the NPDES permit, and Table S1.A should be moved to the Fact Sheet as supporting information that documents the linkage between the TMDL and the Discharge Limits. Table S1.B.b can be deleted because we do not intend to utilize that scenario for our Facility.

Ecology's Response to Cover Letter Comment 1: Table S1.A will remain in the permit to reflect the DO TMDL which is the baseline from which the models were run to verify that the alternate limits are compliant. Table S1.B.b will be deleted and Table S1.B.a will become Table S1.B.

County Cover Letter Comment 2: pH of 6.0-9.0 vs. pH of 7.0-9.0

Table S1.C should be modified to include an additional line of effluent limits for pH based on the treatment technology range of a Daily Minimum of6.0 and a Daily Maximum of9.0, which would apply when adequate pH and alkalinity is present in the Spokane River to alleviate the need for the narrower water quality based effluent limit of7.0 to 9.0. Footnote 'e' to Table S1.C should be modified to include the sentence "The technology based effluent limit for pH of 6.0 to 9.0 shall apply when Spokane River water quality monitoring for pH and alkalinity demonstrates that water quality based effluent limits for pH are unnecessary. "

Ecology's Response to Cover Letter Comment 2: The County's comment is noted. However, Ecology has determined that the discharge from the County's facility has a reasonable potential to violate the water quality standard for pH. If receiving water monitoring for alkalinity demonstrates no reasonable potential for a violation of pH water quality standards, the Permittee may request that Ecology use that new information to reevaluate the pH water quality based effluent limit. Permit section S9. requires a receiving water study that will collect data that could justify a permit modification as provided in permit condition G3(2).

County Cover Letter Comment 3: Offset and Equivalency Considerations

Spokane County's 2010 Wastewater Facilities Plan Amendment was approved by Ecology on December 14, 2010. In that document, Chapter 11 (Phosphorus Management Plan) and Chapter 12 (Dissolved Oxygen TMDL Parameters) address Offset and Equivalency Considerations. Both of these considerations should be clearly incorporated into the permit language to allow the County to operate our Water Reclamation Facility consistent with its design.

Ecology's Response to Cover Letter Comment 3: Permit section S1. and Table S1.B implement the pollutant equivalency option to offset the DO consuming potential of one parameter, such as ammonia, with DO conserved by better removal of another parameter, such as $CBOD_5$.

The water quality standards (WAC 173-201A-450) provide the opportunity for an offset and describe the circumstances under which an offset can be implemented. In the wastewater facilities plan the County presented data on the amount of phosphorus eliminated by septic tank eliminations. Ecology approved the report and the use of the offset obtained from septic tank elimination up to the minimum estimated value, 12 lbs/day. The public comment version of the permit did not state how that offset was to be administered. The county submitted a proposal with 2 scenarios for using an offset during facility start in case of excursions while learning to optimize performance of a new treatment system. One scenario anticipates using 1 lb/day of offset total phosphorus removed by septic tank eliminations and the other scenario anticipates using 2 lbs/day TP. Language for using the offset has been added to S1.B and has instructions for reporting the quantity of offset used.

> *During the start up period, 2011, 2012 and 2013, the Permittee may use the "offset" total phosphorus from septic tank eliminations identified in the approved wastewater facilities plan as amended in November 2011, to offset the DO depleting value of $CBOD_5$, total ammonia, or total phosphorus up to the value of the total phosphorus used in the approved offset scenario submitted to and approved by Ecology. The amount of offset used for this is to be identified in the transmittal letter accompanying the monthly discharge report, DMR. The transmittal letter will maintain a running total of offsets used through the applicable "season." A report summarizing the offsets used from March 1 to October 31 must accompany the submission of the October DMR.*

County Cover Letter Comment 4: Mixing Zone Dilution Factors

The dilution factors in Fact Sheet Table 12- "Ecology Determined Dilution Factors (DF)," that are used for chronic and acute mixing zone dilution rate, are based on information that is outdated. Please consider updating those dilution factors, and correspondingly, the effluent limits.

Ecology's Response to Cover Letter Comment 4: Ecology does not agree that the dilution factor is based on outdated information. The dilution factor is based on the Monthly Average Flow listed in section S4. of the permit and the approved Wastewater Facilities Plan.

County Cover Letter Comment 5: Clarification of Analytical Detection/Quantitation Limits

To clarify requirements on reporting data, revise Appendix A to include the recommended language from EPA re: Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits per the EPA memo dated April25, 2005.

Ecology's Response to Cover Letter Comment 5: Appendix A is not intended to alter the USEPA guidance on reporting on effluent limits below analytical detection/quantitation limits. It is expected that the Permittee will follow the USEPA guidance, as footnoted in the monitoring table in section S2. The EPA guidance will be added to the Fact Sheet as Appendix G.

County Cover Letter Comment 6: Ambient Background Data for Metals

We are resubmitting the Technical Memorandum from Brown & Caldwell (dated May 16, 2011) pertaining to water hardness in the Spokane River. We believe the available data from monitoring station 57A150 at State Line is overly restrictive and request the hardness value be adjusted once representative data becomes available.

Ecology's Response to Cover Letter Comment 6: Ecology acknowledges that the site specific water quality data for hardness, pH, and alkalinity is minimal. Ecology also acknowledges that the Permittee can request a reconsideration of the permit limit for pH once additional data has been collected and analyzed.

Spokane County Review Comments - County Enclosure (Page 1-12)

Comment 1. Section S1.Discharge Limits (p 7): Clarify the second paragraph to specifically authorize discharge from the Spokane County Regional Water Reclamation Facility. Requested Revision 1: The first sentence of the second paragraph should be revised so that the word "may" is replaced with "is authorized." The revised sentence should read as follows: "Beginning on the Permittee is authorized to discharge: The revised language is important because it contains a clear authorization to discharge and is consistent with other Washington State NPDES permits.

Ecology Response to Comment 1: The language has been clarified to "is authorized" and is consistent with usage in other permits.

Comment 2.Section S1. Discharge Limits Tables S1.A,S1.B.a and S1.B.b. (pp 7-8): The draft NPDES permit presents three effluent limits tables, each representing a different combination of limits for the TMDL parameters Carbonaceous Biochemical Oxygen Demand (CBOD),Total Phosphorus, and Total Ammonia. Table S1.A represents the TMDL modeling scenario and Tables S1.B.a and S1.B.b represent alternative combinations of parameters that also satisfy the TMDL. The concern with the presentation of three effluent limits tables is potential confusion about which limits apply. Table S1.B.a best represents the effluent limits that the Spokane County Regional Water Reclamation Facility (SCRWRF) is designed to meet.

Requested Revision 2: Table S1.B.a should be retained as the single effluent limits table in the NPDES permit for clarity and Table S1.A should be moved to the Fact Sheet as supporting information that documents the linkage between the TMDL and the Discharge Limits.

Ecology Response to Comment 2: Tables S1A and S1B have been revised for clarification of permit limits as indicated in the Cover Letter Comment 1 Response.

Comment 3. Section S1.Discharge Limits Tables S1.A, S1.B.a., S1.B.b. and S1.C footnote 'd' (pp 7-9): Footnote 'd' does not appear in Tables S1.A, S1.B.a, S1.B.b, or S1.C.

Requested Revision 3: Add a footnote 'd' into the tables, or delete if not applicable. It appears from the text of footnote 'd' that it was intended to apply to the Daily Maximum column of the tables.

Ecology Response to Comment 3: The footnotes in the tables (S1.A, S1.B and S1.C) list footnote 'd'; footnote'd' was not used in the table. Footnote 'e' was used inadvertently in place of footnote 'd'. The correction has been made.

Comment 4. Section S1. Discharge Limits. Table S1.C footnote 'd' (pp 7-9): Table S1.C makes reference to "Total PCBs see section S13,S14 and footnote 'h';" however there is no Section S14. Requested Revision 4: Replace with "Total PCBs see section S12,S13 and footnote 'h'."

Ecology Response to Comment 4: The correction has been made.

Comment 5.Section S1. Discharge Limits. Table S1.C.(p 9): Table S1.C Effluent Limits for Remaining Pollutants includes a water quality based effluent limit for pH with a Daily Minimum of 7 and a Daily Maximum of 9.
The Fact Sheet states that "Under critical conditions, modeling predicts a violation of the pH criteria for the receiving water if the effluent pH drops below 7.0 with an ambient alkalinity of 40 mg/L CaCO3 or less." The concern is that this pH range is narrower than the expected treatment technology based range of Daily Minimum of 6.0 and a Daily Maximum of 9.0 and unnecessarily restrictive. Expected effluent quality from the SCRWRF facility may tend towards the lower end of the range and be lower .than pH 7.0 based on chemical treatment to produce low phosphorus and nitrification to control effluent ammonia and should not result in a violation of discharge limits since receiving water conditions are expected to be better than the pH and alkalinity assumptions used in the Ecology modeling prediction.

Requested Revision 5: Table S1.C should be modified to include an additional line of effluent limits for pH based on the treatment technology range of a Daily Minimum of 6.0 and a Daily Maximum of 9.0, which would apply when adequate pH and alkalinity is present in the Spokane River to alleviate the need for the narrower water quality based effluent limit. Footnote 'e' to Table S1.C should be modified to include the sentence "The technology based effluent limit for pH of 6.0 to 9.0 shall apply when Spokane River water quality monitoring for pH and alkalinity demonstrates that water quality based effluent limits for pH are unnecessary."

Ecology Response to Comment 5: Based on the existing data, Ecology does not agree that the water quality pH effluent limit is unnecessarily restrictive. As stated above, if receiving water monitoring for alkalinity demonstrates no reasonable potential for a violation of pH water quality standards, the Permittee may request that Ecology use that new information to reevaluate the pH water quality based effluent limit. Permit section S9. requires a receiving water study that will collect data that could justify a permit modification as provided in permit condition G3(2).

Comment 6. Section S1.Discharge limits. Table S1.C.footnote 'e' (p 9): Footnote 'e' does not match the pH limits shown in Table S1.C or reflect continuous monitoring.
Requested Revision 6: Replace the daily minimum of 6.0 with the following language: "When pH is continuously monitored, excursions will be examined to confirm they are not a result of probe malfunction, calibration, power failure, or for unanticipated equipment repair or maintenance not related to water conditions. Excursions between 5.0 and 6.0 or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly."

Ecology Response to Comment 6: The footnote has been revised. It is presumed in the footnote that 60 minutes is enough time to recognize a violation and clean the probe. Ecology acknowledges that that assumption can be invalid after hours. Ecology will consider explanations on the DMR regarding pH violations and responses made to correct probe malfunction as soon as practical. Another option is a second pH probe as a backup.

Comment 7. Section S1.Discharge Limits. Table S1.C.(p 9): Limits for metals (cadmium, lead, zinc) have been included in the draft permit, but there are no treatment plant performance data from the new Spokane County facility to support these performance based numerical effluent limits.

Ecology intends to establish treatment performance based effluent limits for cadmium, lead, and zinc because there are TMDLs for these metals in the Spokane River. However, effluent limits should be based on actual plant performance, which is not yet available.

The Fact Sheet discussion addresses the current unknowns:"The Heavy Metals TMDL requires either a performance based limit or a water quality based limit using the end of pipe hardness which is unknown. Ambient concentrations for Cadmium, Lead and Zinc exceed the water quality standards. The calculations for reasonable potential require a maximum effluent concentration which isn't available. Instead, the County's permit application proposed to use the effluents limits for the Riverside Park Water Reclamation Facility under the assumption that the influent pollutant concentrations would be similar. The SCRWRF will also be employing the next level of treatment, chemical addition and filtration, and would be expected to provide better metals removal than the current Riverside Park Water Reclamation Facility. Additionally, the SCRWRF has a larger dilution factor so that using RPWRF effluent limits for metals is deemed to be conservative and acceptable until operational data is available."

While the treatment performance from the SCRWRF is expected to be excellent, because there is no actual data yet, we cannot know with certainty whether the numerical limits included in the draft permit can be met.

Requested Revision 7: We request that the numerical limits for these parameters be removed from Table S1.C and replaced with a footnote 'i' that reads as follows;"Following the initial year or two of operation of the SCRWRF, effluent data for the facility will be analyzed to develop performance based effluent limits to enter into Table S1.C for cadmium, lead, and zinc based on actual plant performance."

Alternatively, if Ecology elects not to remove numerical limits from the permit limits table, the permit should specifically authorize a permit modification to revise the numerical effluent limits when treatment performance data becomes available. In this regard, we request footnote 'i' be added to Table S1.C. is as follows:"Following the initial year or two of operation of the SCRWRF, effluent data for the facility will be analyzed to develop performance based effluent limits to modify, if necessary, the initial effluent limits for cadmium, lead, and zinc included in Table S1.C."

Ecology Response to Comment 7: A footnote has been added; *The Permittee can request a recalculation of the performance based metals effluent limits after 2 years.*

Comment 8. Section S1. Discharge Limits. Table S1.C. (p 9): Daily maximum heading above metals in the table should not have a footnote callout.

Requested Revision 8: Table S1.C. Delete footnote 'e' from the column of metals limits heading Maximum Daily.

Ecology Response to Comment 8: Footnote 'e' was used inadvertently in place of footnote 'd'. The correction has been made.

Comment 9. Section S1. Discharge Limits. Table S1.C. Footnote 'a' (p 9): The text from footnote 'a' is confusing:"Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month.

To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote 'c' for fecal coliform calculations." If multiple measurements are taken in a single day, it is unclear whether those are averaged for a daily value, which is then used to calculate the average monthly, or whether all measurement taken are averaged for the month. The publication 0410020 Information Manual for Treatment Plant Operators states that all data are averaged.

Requested Revision 9: Replace footnote 'a' with the following:"Average monthly effluent limit means the highest allowable average of discharges over a calendar month. Ecology provides directions to calculate the statistic in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.govjpubs/0410020.pdf."

Ecology Response to Comment 9: The value of the daily discharge can be the average of more than one value if an average value for the month is the goal. This presumes that the standard monitoring frequencies provide multiple sampling events for a parameter, such as for flow. However, for other parameters that may not be allowed.

Comment 10. Section S1. Discharge Limits. Table S1.C. Footnote 'b' (p 9): Footnote 'b' is unclear: "Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. See footnote 'c' for fecal coliform calculations." It is unclear why "daily discharges" is in quotations and what the quotation means.

Requested Revision 10: Replace footnote 'b' with the following: "Average weekly discharge limitation means the highest allowable average over a calendar week. Ecology provides directions on how to calculate the statistic in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf."

Ecology Response to Comment 10: Daily, for many applications, is midnight to midnight. At a wastewater treatment or water reclamation facility daily could be based on the 24 hour period starting with a specific shift each day, such as 8 a.m. to 8 a.m. As the comment points out it is expected that the Permittee follow the guidance provided to operators. Footnotes in S2 reference the guidance for that purpose.

Comment 11. Section S1. Discharge Limits. Table S1.C.Footnote 'f' (p 10): Table S1.C footnote 'f addresses the basis for compliance with effluent limitations for CBODS, NH3-N and TP on a seasonal mass basis. However, footnote 'f in the draft permit calls for a public review of the seasonal loading analysis that is unnecessary because the Wastewater Facility Plan already addressed these issues. The Wastewater Facility Plan was developed through a process that included public review and approval by Ecology.
Spokane County, in its 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on December 14, 2010), addressed the issue of equivalencies between the TMDL parameters in Chapter 12 Dissolved Oxygen TMDL Parameters.

The CE-QUAL-W2 water quality model of the Spokane River was the tool used to develop the Spokane River TMDL and determine the allowable loadings for the desired dissolved oxygen concentrations.

The CE-QUAL-W2 model represents specific flows and other conditions, including discharge constituent concentrations from the Spokane County Regional Water Reclamation Facility and may serve as the basis for parameter equivalencies and offset credits for compliance with effluent limits. An additional public review process is unnecessary and would be cumbersome when assessing seasonal loadings for compliance with permit limits.

Requested Revision 11: Table S1.C footnote 'f' part 2) should be modified to read as follows "2) a combining of effluent quality and pollutant equivalencies. Pollutant equivalencies shall be determined based on DO TMDL oxygen depletion and pollutant credit earned from implementation of the Offset Plan included in the 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on Dec. 14, 2010)."

Ecology Response to Comment 11: The footnote reflects an understanding of the approval process from an early draft of the trading policy. The footnote is revised as follows:

> Compliance with the effluent limitations for $CBOD_5$, NH3-N and TP will be based on:
>
> 1) a seasonal average with the running seasonal average for the season reported monthly for tracking compliance with the allowable mass limitation, and
>
> 2) a combination of reported effluent quality, pollutant equivalencies in term of oxygen depletion and pollutant credits earned from Septic Tank Eliminations and approved by Ecology, following a revised run of the current, 2011, CE QUAL W2 model demonstrating compliance with DO TMDL wasteload allocation and permit conditions. The model run results and accompanying documentation will be submitted the DO TMDL advisory committee for review and to Ecology for review, comment (if needed) and Ecology approval.

Comment 12.Section S1. Discharge Limits. Table S1.C.Footnote 'f (p 10): The draft permit does not include Interim performance based limits during the initial 2-year period for optimization of the new facility, which was specifically provided for in the final approved Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report dated February 2010 (TMDL). Interim Performance Based Limits are authorized on page 63 of the TMDL. Page 62 of the TMDL provides for "delta elimination" as allowed under the Washington State offset rule (WAC 173-201A-450).

Spokane County, in its 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on December 14, 2010), addressed the issue of Interim Performance Based Limits on page A12-9. In that chapter, Spokane County stated how the new facility proposed to meet the waste load allocations, provided in the TMDL, upon start-up.

Chapter 11(Phosphorus Management Plan), of the Facilities Plan Amendment provides a detailed discussion of the Spokane County approach to delta elimination, which is specifically authorized in the TMDL. That Chapter concludes that Spokane County will generate a minimum of 12 pounds per day of phosphorus offsets (delta elimination),and perhaps more than 20 pounds per day of phosphorus offsets. At the very least, Spokane County has demonstrated an offset credit of 2,928 pounds for the TMDL season from March through October.

Spokane County's NPDES permit application requested Interim Performance Based Limits for the initial 2-year period for optimization of the new facility.

Please refer to pages A-1through A-3 of our draft permit application, plus the two page memorandum by CH2M HILL immediately following. Based on our review of the potential performance of the new facility with our contract operator, we concluded that up to 229 pounds of phosphorus from the County's delta elimination offset credit could be necessary for each TMDL season during the first two years of operation. Because we have demonstrated an offset credit of 2,928 pounds of seasonal credit, we have requested to use up to 229 pounds during each of the initial two TMDL seasons, which provides a safety factor of at least 10 to 1.

Requested Revision 12: Table S1.C footnote 'f be modified to add the following language: "3) a combining of load reduction credits earned from implementation of the Offset Plan included in the 2010 Wastewater Facilities Plan Amendment (approved by Ecology on December 14, 2010) used to demonstrate compliance with effluent limits for TMDL parameters either as direct offsets in terms of the mass of phosphorus, or in terms of pollutant equivalencies demonstrated by water quality modeling."

Ecology Response to Comment 12: Ecology did overlook this provision. The response to cover startup is in changes described above responding to comment regarding Offsets and Equivalency Considerations.

Comment 13.Section S1.Discharge Limits. Table S1.C.Footnote 'h' (p 10): Table S1.C includes a footnote 'h' regarding PCBs: "The effluent monitoring results for PCBs will be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle." Because there are no discharge limits for PCBs in the table, footnote 'h' does not apply to the effluent limits table.

Requested Revision 13: Delete footnote 'h' that reads: "The effluent monitoring results for PCBs will be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle." and place it in Section S.12.

Ecology Response to Comment 13: While performance based limits do not exist currently, performance based limits are coming and footnote 'h' is acknowledging that eventuality.

Comment 14.Section S1.D Mixing Zone Authorization, Mixing Zone for Outfall No.001(p 10): Second table under S1.D under the heading of Mixing Zone for Outfall No. 001is not labeled.

Requested Revision 14: Section S1.D Mixing Zone Authorization, the second table should be titled "Approved Dilution Factors."

Ecology Response to Comment 14: A title for table has been added.

Comment 15. Section S1.D Mixing Zone Authorization, Mixing Zone for Outfall No.001(p 10): The dilution factors in Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)," that are used for chronic and acute mixing zone dilution rate are based on information that is outdated. The Fact Sheet states that Ecology determined the dilution factors in Table 12 using a summer 7Q20 of 573 cfs and a winter 7Q20 of 1047 cfs (Pelletier 1997), however, the TMDL modified the minimum flow in the Spokane River to a higher level and more recent dilution information is available from the outfall design. Because Ecology used the outdated dilution factors for reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals the reasonable potential analysis, and potentially the resulting effluent limits, may need to be revised.

Requested Revision 15: Update the reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals based on the TMDL modified minimum flow conditions and final outfall design dilution. This should result in a modification to the subject effluent limits.

Ecology Response to Comment 15: Ecology used the proper dilution factors for the reasonable potential analysis.

Comment 16.Table S2.Monitoring Requirements, footnote '4' (p 11): Footnote '4' Table S2 is related to maximum and minimum pH and does not apply to Arsenic, Copper, Lead, Zinc, Mercury, and Silver.

Requested Revision 16: Delete footnote '4' from metals parameters Arsenic, Copper, Lead, Zinc, Mercury, and Silver.

Ecology Response to Comment 16: You are correct, the correction has been made.

Comment 17.Table S2.Monitoring Requirements, footnote '5' (p 11): Footnote '5' Table S2 is related to fecal coliform and does not apply to toxics parameters.

Requested Revision 17: Delete footnote '5' from toxic parameters.

Ecology Response to Comment 17: You are correct, it should be 15. The correction has been made.

Comment 18.Table S2. Monitoring Requirements, footnote '6' (p 11): Footnote '6' Table S2 is related to CBOD and does not apply to toxics parameters.

Requested Revision 18: Delete footnote '6' from toxic parameters.

Ecology Response to Comment 18: You are correct, it should be 16. The correction has been made.

Comment 19.Table S2 Part (3) Whole Effluent Toxicity- Final Wastewater Effluent (p 13): Minimum sampling frequency shown as Quarterly in 2014 does not agree with Section S10.A and S11.A which states testing must begin by July 30, 2012.

Requested Revision 19: Resolve discrepancy between start dates by changing Section S10.A and S11.A to 2012 & 2013 (see Comments 31and 38).

Ecology Response to Comment 19: Section S10. and S11. have been changed to match the date in S2. The submittal date table has also been revised to match.

Comment 20.Table S2. Monitoring Requirements, footnote '12' (p 13): Footnote '12' is about maximum and minimum pH similar to footnote '4' and does not apply to Dissolved Oxygen.

Requested Revision 20: Delete footnote '12' from Dissolved Oxygen.

Ecology Response to Comment 20: The correction has been made.

Comment 21.Table S2 footnote '3' (p 14): Footnote '3' in Table S2 cites a CBOD% removal for CBOD that is not included in the monitoring requirements;

Requested Revision 21: Delete CBOD from footnote 3'.

Ecology Response to Comment 21: Correct, $CBOD_5$ is only used as an example.

Comment 22.Section S2.Monitoring Requirements, Footnote '18'.(p 15): Footnote '18' includes provisions that do not apply to Spokane County and appears to be a footnote taken from the City of Spokane NPDES discharge permit reading "Beginning March 1, 2018; for the 3 parameters....to correct any trend potentially resulting in noncompliance."

Requested Revision 22: Footnote '18' should be deleted from the Monitoring Requirements table.

Ecology Response to Comment 22: The date of March 1, 2018 is from the City of Spokane's NPDES permit. But, the need for the data is common to all the NPDES dischargers. The date has been corrected to 2012.

Comment 23.Section S2.Monitoring Requirements, Footnote '19'. (p 15): Footnote '19' on Ammonia does not appear in Table S2 and appears to conflict with Appendix A.

Requested Revision 23. Delete footnote '19'.

Ecology Response to Comment 23: Footnote 19 has been added to the table in S2. for effluent ammonia and supersedes Appendix A.

Comment 24.Section S2.Monitoring Requirements, Footnote '20'. (p 15): Footnote '20' on Phosphorus does not appear in Table S2 and appears to conflict with Appendix A.

Requested Revision 24: Delete footnote '20'.

Ecology Response to Comment 24: Footnote '20' has been added to the table in S2. Footnote '20' supersedes Appendix A.

Comment 25. Section S2. Monitoring Requirements, Footnote '21'. (pp 15-16): Footnote '21' does not appear in Table S2 and appears to conflict with Appendix A. Specifically, Footnote '21' conflicts with EPA Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005), which states that "For purposes of calculating monthly averages, zero may be assigned for values less than the MDL,...". Footnote '21' second bullet conflicts with EPA guidance:

- *"For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period."*

Requested Revision 25A: Delete footnote '21'.

As identified in the Fact Sheet in Section IV Monitoring Requirements C. Effluent Limits Which are Near Detection or Quantitation Levels, reference should be made to incorporate the recommended text for permit writers.

Requested Revision 25B: Revise Appendix A to include the recommended language from EPA on Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April25, 2005) which states that "For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}". If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance."

Ecology Response to Comment 25: First, Footnote '20' does conflict with the reporting limit in Appendix A except that the appendix states in the first paragraph:

> The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:
>
> - Another permit condition specifies other methods, detection levels, or quantitation levels.
> - The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

In your case the permit does require a more stringent reporting limit in footnote '21'. Second, the key word in the USEPA guidance is "may." The EPA guidance also directs that permits state how results below the MDL or ML be reported or used for averaging and the permit uses footnote '21' for that purpose.

Comment 26. Section S2.A. Sampling and Analytical Procedures (p 16): This section should be revised to read as follows so that the provision is consistent with other NPDES permits.

Requested Revision 26A: Second sentence, the words "that may affect" should be changed to "affecting," so that the sentence reads as follows: "The Permittee must ... affecting effluent quality."

Requested Revision 268: The second sentence should be revised so that the following language is added to the end of the sentence: "or to the latest revision of Standard Methods for the Examination of Water and Wastewater (APHA}, unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department)." This language is consistent with other NPDES permits.

Ecology Response to Comment 26: The language is consistent with recent NPDES permits. The reference to standard methods was deleted because EPA methods listed in 40 CRFR part 136 also reference Standard Methods.

Comment 27. Section S3.D Additional Monitoring by the Permittee (p 19): This section should be revised to read as follows so that the provision is consistent with other NPDES permits.

Requested Revision 27: The permit language should be replaced with the following language, which is consistent with other NPDES permits: "If the Permittee monitors any pollutant more frequently than required by Condition S2 of the permit using test procedures specified by Condition S2 of this permit, then the results of such monitoring shall be included in the calculation and reporting of the data submitted in the Permittee's DMR." This language is important, particularly with a new treatment plant where there will likely be additional monitoring conducted using test procedures other than required by the permit. This additional data should not be required to be reported in the OMR.

Ecology Response to Comment 27: The language in section S3.D is consistent with recent NPDES permits. Ecology's goal is representative monitoring of the effluent to demonstrate compliance. Influent monitoring demonstrates efficiency of removal, provides information for source control effectiveness and similar pretreatment program purposes. Process control monitoring is generally not of concern, with the exemption of generating reclaimed water. Process monitoring when reclaimed water is distributed is to demonstrate that the policy of multiple barriers is effective in protecting public health. The section has been edited to clarify Ecology's monitoring objectives.

Comment 28:Section S3.E Reporting permit violations (p 19): For the dissolved oxygen TMOL parameters, the following wording may not be appropriate: "1. immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem."

Requested Revision 28: Revise the language for TMOL oxygen consuming parameters by adding the following: "Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem. Because oxygen consuming pollutants do not cause an immediate human or environmental risk, the limits are extremely low, and the treatment processes are new, the Department will work with the Permittee to correct the problem within a negotiated schedule that is practical and feasible."

Ecology Response to Comment 28: Ecology will not include the County's suggested revisions. Ecology expects staff to immediately take action to stop non-compliance by reviewing and possibly revising operating procedures. Ecology will work with the operations staff to comply with the limits especially in a start-up situation.

Comment 29.Section S6.Pretreatment,S6.A.S.b. Pretreatment Report (p 31): There are four references to Section S7. which are remnant of the text in the NPDES permit for Spokane's RPWRF. In this NPDES permit for the County's SCRWRF, those phrases should reference Section S6.

Requested Revision 29: Change the four references in Section S6.A.5.b. as follows: S7.B. to S6.B.; S7.A.6. to S6.A.l. {there is no S6.A.6.}; S7.C. to S6.C.; and S7.0. to S6.0.

Ecology Response to Comment 29: The corrections have been made.

Comment 30.Section S6. Pretreatment,S6.D.Local Limit Update (p 34): Section S6.D. requires that the County update its local limits by August 15, 2012. Under this timeline the SCRWRF will likely have been operating for less than one year. Given that the facility is brand new, a longer period of initial operation is requested to allow a longer period to collect relevant data for subsequent analysis and use.

Requested Revision 30: Change the date of August 15, 2012 to be August 15, 2013 which allows collection of relevant data to be used for establishing local limits for the County's SCRWRF.

Ecology Response to Comment 30: The request to delay an update of the local limits until August 15, 2013 is reasonable. The change has been made.

Comment 31. Section S10. Acute Toxicity,S10.A.Effluent characterization (p 37): Section S10.A which states testing must begin by July 30, 2012 conflicts with Table S2 Minimum sampling frequency shown as Quarterly in 2014.

Requested Revision 31: Resolve discrepancy between dates (see Comments 19 and 38).

Ecology Response to Comment 31: Section S10. and S11. have been changed to match the date in S2. The submittal date table has also been revised to match.

Comment 32.Section S10. Acute Toxicity,S10.A.2 Effluent characterization (p 37): Section S10.A refers to Section G which does not exist.

Requested Revision 32: Replace Section G with reference to Section S10.F.

Ecology Response to Comment 32: Correct. The permit should have said Section F.

Comment 33.Section S10.Acute Toxicity,S10.A.2 Effluent characterization (p 38): Section S10.B which refers to "defined in Section S1.B of this permit" which should reference S1.0.

Requested Revision 33: Replace with "defined in Section S1.0 of this permit."

Ecology Response to Comment 33: Correct. The reference has been corrected.

Comment 34.Section S10.Acute Toxicity,S10.8. Effluent limit for acute toxicity (p 38}: The dilution factor stated for acute critical effluent concentration (ACEC) is 56.5% based on the Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)." These dilution rates should be revised to eliminate the historical Ecology information that is outdated and to incorporate the TMDL modified minimum flow in the Spokane River.

Requested Revision 34: Revise the reference to the ACEC in Section S10.B Effluent limit for acute toxicity to account for revisions in the dilution rates as follows:"The ACEC shall be the percentage of effluent consistent with the effluent dilutions rates for aquatic life in Section S1.D Mixing Zone Authorization."

Ecology Response to Comment 34: See the Response to Comment 15.

Comment 35.Section S10. Acute Toxicity,S10.0.Compliance testing for acute toxicity (p 38}: Section S10.D.2 states "Testing must begin by October 1,2013." This date appears inconsistent with the date in Section S10.A.1of July 30, 2012.

Requested Revision 35A: Replace the date with"... July 30,2012 (assuming that is the correct date).

Requested Revision 35B: Note: there are several dates in the permit that need to be in bold text.

Ecology Response to Comment 35: Section S10. and S11. have been changed to match the date in S2. The submittal date table has also been revised to match.

Comment 36. Section S10.Acute Toxicity,S10.D. Compliance testing for acute toxicity (p 38}: Section S10.D refers to Section G which does not exist.

Requested Revision 36: Replace Section G with reference to Section S10.F.
Ecology Response to Comment 35: Correct. The permit should have said Section F.

Comment 37.Section S10. Acute Toxicity,S10.D.Compliance testing for acute toxicity (pp 38-39}: Section S10.D items 2, 3, and 4 are repeated from Section S10.A.

Requested Revision 37: Delete repeated items 2, 3, and 4 from Section S10.A.

Ecology Response to Comment 37: The cited paragraphs do not appear to be duplicate paragraphs to Ecology.

Comment 38. Section S11. Chronic Toxicity,S11.A Effluent characterization (p 41}: Section S11.A which states testing must begin by July 30, 2012 conflicts with Table S2 Minimum sampling frequency shown as Quarterly in 2014.

Requested Revision 38: Resolve discrepancy between dates (see Comments 19 and 31).

Ecology Response to Comment 38: Section S10. and S11. have been changed to match the date in S2. The submittal date table has also been revised to match.

Comment 39.Section S11.Chronic Toxicity,S11.A Effluent characterization (p 41}: Section S11.A refers to Section G which does not exist.

Requested Revision 39: Replace Section G with reference to Section S11.F.

Ecology Response to Comment 39: Correct. The permit should have said Section F.

Comment 40.Section S11. Chronic Toxicity S11. A. Effluent characterization (p 41}: The dilution factor stated for acute critical effluent concentration (ACEC) is 56.5% effluent and the chronic critical effluent concentration (CCEC) is 8.4% effluent based on the Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)." These dilution rates should be revised to eliminate the historical Ecology information that is outdated and to incorporate the TMDL modified minimum flow in the Spokane River.

Requested Revision 40: Revise the reference to the ACEC and CCEC in Section S10.B Effluent limit for acute toxicity to account for revisions in the dilution rates as follows: "The ACEC shall be the percentage of effluent consistent with the effluent dilutions rates for aquatic life in Section S1.0 Mixing Zone Authorization."

Ecology Response to Comment 40: See the Response to Comment 15.

Comment 41.Section S11.Chronic Toxicity,S11.8. Effluent limit for chronic toxicity (p 41): Section S11.B makes reference to "defined in Section S1.B of this permit" which should be Section S1.D.

Requested Revision 41: Replace with "defined in Section S1.D of this permit."

Ecology Response to Comment 41: Correct. The reference has been corrected.

Comment 42. Section S11. Chronic Toxicity,S11.D Compliance testing for chronic toxicity (p 42): Section S11.A refers to Section G which does not exist.

Requested Revision 42: Replace Section G with reference to Section S11.F.

Ecology Response to Comment 42: Correct. The reference has been corrected.

Comment 43.Section S11.Chronic Toxicity,S11.0 Compliance testing for chronic toxicity (p 42): Section S11.D items 6 and 3 are not in numerical order.

Requested Revision 43: Replace item "6: with "3" and "3" with "4" to correct for numerical order.

Ecology Response to Comment 43: Correct. The numbering has been corrected.

Comment 44. Section S11.Chronic Toxicity,S11 Compliance testing for chronic toxicity (pp 42-43): Section S11.D items 2,3, and 4 are repeated from Section S11.A.

Requested Revision 44: Delete repeated items 2,3, and 4 from Section S11.A.

Ecology Response to Comment 44: The cited paragraphs do not appear to be duplicate paragraphs to Ecology.

Comment 45. Section S12.Toxics Source Control Action Plan (p 45): This section calls for an Annual Taxies Management Report to be prepared for specific taxies of that are "PCBs; 2,3,7,8 TCDDs and PBDE". However, there is no water quality impairment listing for PBDE on the Spokane River. Further, recent news releases from Ecology indicate that PBDE levels in the river are declining: "The concentrations of toxic flame retardants called PBDEs in fish tissues from the Spokane River are higher than any other tested area in Washington State, but recent studies indicate levels of those taxies may actually be dropping. In addition, osprey eggs collected along the Spokane River in 2009 all contained PBDEs, but the amount was generally too low to harm the reproductive success of ospreys." (Ecology, March 11,2011). Since PDBE levels are falling and Ecology's urban waters team is actively looking for sources of PBDEs on the Spokane River, it is not appropriate to include PDBEs in the Annual Taxies Management Report.

Requested Revision 45: Revise the specific parameters to be addressed in the Taxies Management report to read as follows: "The taxies of specific concern for this report are PCBs and 2,3,7,8 TCDDs."

Ecology Response to Comment 45: While the River is not listed for PBDEs, and PCBs are the focus, opportunities to find and control sources of PBDEs should not be overlooked.

Comment 46.Section S12.Toxics Source Control Action Plan (p 46): Section S12 includes language that implies that future discharge permits will include numerical effluent limitations for PCBs:"The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle." It is important that performance based PCB limits be developed based on what the actual SCRWRF treatment technology can consistently achieve such that compliance is feasible.

Requested Revision 46: Following the third paragraph on page 46 that reads: "The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle." Add the following: "The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle, provided that the performance based limit must be consistently achievable by the existing SCRWRF treatment technology."

Ecology Response to Comment 46: The use of a large data set to develop performance based limits addresses the Permittee's concern that performance based limits be consistently achievable.

Comment 47.Appendix A List of Pollutants with Analytical Methods, Detection Limits, and Quantitation levels (p 55): As identified in the Fact Sheet in Section IV Monitoring Requirements C. Effluent Limits Which are Near Detection or Quantitation Levels, reference should be made to EPA Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) to incorporate the recommended text for permit writers.

Requested Revision 47: Revise Appendix A to include the recommended language from EPA on Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April25, 2005) which states that "For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}". If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance."

Ecology Response to Comment 47: Appendix A is not intended to alter the USEPA guidance on reporting on effluent limits below analytical detection/quantitation limits. It is expected that the Permittee will follow the USEPA guidance, as footnoted in the monitoring table in Section S2.

Comment 48.Appendix A Table for Conventional Parameters (p 55): Compliance with effluent limits for BOD and ammonia nitrogen will require the use of analytical measurement results that are below the Quantitation Levels identified in the table presented in Appendix A. Clarification is needed to address use of numerical laboratory results that are less than the Quantitation Levels.
Requested Revision 48: Revise Appendix A to include the following: "Effluent reporting for permit compliance will utilize the actual value when analytical laboratory results are below the Quantitation Levels specified in the table below, and when less than the Detection Limit will use zero."

Ecology Response to Comment 48: Appendix A is not intended to alter the USEPA guidance on reporting on effluent limits below analytical detection/quantitation limits. It is expected that the Permittee will follow the USEPA guidance, as footnoted in the monitoring table in Section S2. For ammonia the footnotes in S2. supersede Appendix A intentionally.

Comment 49. Summary of Permit Report Submittals (pp 5-6): Several items in the summary table should be considered for addition or review/revision as follows:

Proposed Action	*Permit Section*	*Submittal*	*Frequency*	*First Submittal*
Add	*S6.D.*	*Local Limit Update*	*1/permit cycle*	*August 15,2013 1*
Add	*S6.E.*	*Mercury Abatement and Control Plan*	*1/permit cycle*	*February 15,2016*
Revise	*S10.D.*	*Acute Toxicity Compl. Monit. Repts.*	*1/permit cycle*	*October 31, 2012 2*
Revise	*S11.D.*	*Chronic Toxicity Compl. Monit.*	*1/permit cycle*	*October 31, 2012 3*
Notes: 1-see Comment 30; 2-see Comments 19 & 31; 3-see Comments 19 & 38				

Requested Revision 49: Consider the proposed additions and revisions listed in the table above.

Ecology Response to Comment 49: Changes have been made.

Copies of Public Comment Documents

1 Charles Barr email dated August 4, 2011

2 Charles Barr email dated August 9, 2011

3 Avista letter dated August 8, 2011

4 Spokane Tribal Natural Resources letter dated August 25, 2011

5 Sierra Club letter dated September 30, 2011

6 Spokane County letter dated September 16, 2011

Joy, Shara-Li (ECY)

From: Charles Barr [clbarr20@webband.com]
Sent: Thursday, August 04, 2011 12:00 PM
To: Joy, Shara-Li (ECY)
Subject: Spokane County Sewer

Concerning the Spokane County Wastewater Treatment Plant:

Cities of Spokane and Liberty Lake, as well as businesses Inland Empire Paper and Kaiser Aluminum, currently discharge waste into the Spokane River in a very short distance. How much waste is too much? How clean is clean? As science progresses, are today's clean standards adequate for tomorrow? What environmental or health issues may arise from too much waste discharged into the river?

This treatment plant will surely malfunction at some time in the future. Are there adequate storage or alternate dump sites for untreated waste for an extended period of time?

Have test wells indicated actual pollution to our aquifer making this plant necessary? Or is this solely to facilitate developers? Our local water district, Trentwood Irrigation sends us a report every year indicating there has been no deterioration of our water quality.

It would seem prudent that sparsely populated areas continue with onsite septic disposal, which has not been a problem. This would reduce the volume at the waste treatment plant.

It seems all government entities want to continue growing their kingdoms. In our present day economy, larger and more expensive facilities are not always best for residents.

Sincerely,

Charles and Nancy Barr
5102 N McDonald Rd.
Spokane Valley, Washington 99216
Ph: 509-928-1052

Joy, Shara-Li (ECY)

From: Charles Barr [clbarr20@webband.com]
Sent: Tuesday, August 09, 2011 3:40 PM
To: Joy, Shara-Li (ECY)
Subject: Spokane County Wastewater Treatment Plant Discharge Permit

Concerning the Spokane County Wastewater Treatment Plant:

Eight million gallons of treated sewage daily is an enormous amount of discharge into the Spokane River.

How will this daily discharge affect the river levels at the high water line? How will it affect property during flooding? Upriver Drive, the Centennial Trail and other areas downstream are already affected by flooding.

At the opposite spectrum, how will discharges affect water quality when levels are low? Will the Spokane River falls start foaming? Stinking?

Will this treated wastewater create a new super-strain of bacteria, algae, or what other unhealthy problems for humanity, fish, fowl and wildlife?

Protect our resources, please.

Sincerely,

Charles and Nancy Barr
5102 N McDonald Rd.
Spokane Valley, Washington 99216
Ph: 509-928-1052

August 8, 2011

Permit Coordinator
Department of Ecology
4601 N. Monroe
Spokane, WA 99205

Re: **Comments on Spokane County Draft NPDES Permit**

Dear Sir/Madam:

I am writing to provide the following comments on the Washington Department of Ecology's (Ecology) Draft Spokane County NPDES Permit.

1. Beginning on page 7, the draft permit includes a series of effluent limit tables for oxygen consuming pollutants. Each table contains a column heading that reads "Season Limit Applies March 1 to October 31 / See notes f and g." Note f, which appears on page 10 of the draft permit, states that: "Compliance with the effluent limitations for CBOD5, NH3-N and TP will be based on…a combining of the effluent quality, pollutant equivalencies in term of oxygen depletion and the DO TMDL and pollutant credit earned from implementation of the Offset Plan, following public review and comment and then Ecology approval." This is the only reference to an Offset Plan that we have found in the draft permit, and it is not referenced at all in the Fact Sheet. Please identify the Offset Plan that is being referred to. Has it already been written and if so, where is it available for review? If not, when will it be written and distributed for review?

Ecology issued a draft Water Quality Trading Framework paper for public review in the fall of 2010. We understand from an Ecology memo dated April 20, 2011 that the Framework will not be finalized, but instead will be a "living document." Does Ecology intend that the Offset Plan referred to in the draft permit be consistent with the draft Trading Framework, as modified by the Response to Comments that Ecology issued in April 2011?

Finally, please explain how Spokane County will combine effluent quality, pollutant equivalencies, and pollutant credit earned from implementation of the Offset Plan to determine compliance with effluent limitations. For most dischargers, it is possible to determine compliance with effluent limitations simply by reviewing their Discharge Monitoring Reports (DMRs). Will the County's report include the combined figures from the above, as authorized by note f, in its DMRs? If not, how will Ecology and others determine whether the County is in compliance with the effluent limitations in the permit?

2. On page 25 of the draft permit, it states that: "The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to

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www.avistautilities.com

the sanitary sewer system." For clarity, please specify the sewer ordinances referred to in this condition.

3. On page 35 of the draft permit, it states that: "The Permittee must collect information on the effluent and receiving water, upstream and downstream to determine if the effluent has impacted beneficial uses or water quality standards."

(a) Please specify how far downstream the receiving water study must extend.

(b) How will the results of the receiving water study be used? In particular, if the receiving water study shows that the Spokane County effluent impacts downstream beneficial uses or violates downstream water quality standards, what changes would be made to the terms of the permit and when would those changes be made?

4. On page 37 of the draft permit, it states that: "The Permittee may conduct a cooperative receiving water study with other NPDES Permittees discharging in the same vicinity." Does Ecology intend that there be any coordination between the receiving water study or studies conducted by the dischargers and monitoring to be conducted by Avista under its Water Quality Attainment Plan? Has Ecology considered what to do, if contradictory conclusions are reached through the various studies and monitoring results? Will these studies be directed by the TMDL Implementation Advisory Committee?

5. On page 15 of the Fact Sheet, what is the purpose of Table 5, "Conventional Ambient Background Data," particularly the reference to dissolved oxygen (DO) as having a "Value Used" of 12.86 to 8.3 mg/L? In other words, how do these ambient DO values affect the actual terms of the NPDES permit?

Thank you for the opportunity to comment. Please feel free to call me at (509) 495-4998 if you have any questions or wish to discuss our comments.

Sincerely,

Elvin Fitzhugh
Spokane River License Manager

cc: Dave Moore, Ecology

Spokane Tribal Natural Resources
P.O. Box 100 • Wellpinit, WA 99040 • (509) 258-9042 • fax 258-9600

MEMORANDUM

August 25, 2011

Permit Coordinator
Department of Ecology
4601 N. Monroe
Spokane, WA 99205

RE: Comments on Spokane County Regional Water Reclamation Facility (NPDES Permit WA-009331-7) SENT VIA EMAIL (stra461@ecy.wa.gov) and First-Class Mail

Dear Permit Coordinator:

Please accept these comments on the Washington Department of Ecology's ("WDOE") draft Spokane County Regional Water Reclamation Facility ("County") NPDES permit. These comments are submitted on behalf of the Spokane Tribe of Indians ("Tribe") and the Tribe's Department of Natural Resources ("DNR"). The Tribe previously submitted comments on the other four draft permits for the existing dischargers along the Spokane River on November 17, 2010, and hereby incorporates any references within those comments that apply to the Tribe's concerns about the draft County permit. Additionally, the Tribe incorporates by reference its concerns about the County permit addressed in the May 27, 2011 letter sent from the Tribe to Dennis McLerran, Regional Administrator, Region 10 of the Environmental Protection Agency ("EPA") with a copy provided to the WDOE. The following are the Tribe's brief comments that are in addition to the concerns outlined in the documents incorporated above.

Comments

1. Condition S13 Regional Toxics Task Force

After receipt of the Tribe's May 27, 2011 letter to EPA, the Tribe's technical and legal staff has been in active and on-going discussions addressing the Tribe's concerns about PCBs with the WDOE and EPA. Those concerns revolve around the lack of a final PCB TMDL being in place while a new discharger of PCBs, the County, receives an NPDES permit. In response to environmental groups' and the Tribe's concerns, the County proposed a Regional Toxics Task Force ("Task Force") as a mechanism to allow the County to obtain a permit prior to the requirements of 40 C.F.R. Section 122.4(i) being met.

At this time, the Tribe is cautiously supportive of the Task Force as described in section S13 of the draft County permit as an alternative means of meeting the requirements of 40 C.F.R. Section 122.4(i). However, the Tribe withholds its full support until the framework and funding details of the Task Force are known, and the Tribe is convinced that the Task Force will in fact have the capability of providing the same level of PCB reductions as a finished and enforceable PCB TMDL.

Additionally, the Tribe is very concerned about Kaiser Aluminum's appeal of their final NPDES permit, and its potential effects on the Task Force's implementation and development. Throughout, the development of the Dissolved Oxygen TMDL, the dischargers and other business interests routinely complained about the process and indicated that they could do a better and more efficient job of creating a clean-up plan. The creation of this Task Force will be an opportunity for those interests and entities to try their hand at developing an effective plan to reduce pollution in the River, and to bring it into compliance with applicable water quality standards. Unfortunately, the Kaiser appeal indicates that some of the interests may not be willing participants. The Tribe hopes that the Kaiser appeal is simply a bump along the road of creating the Task Force.

2. Discharge Limits

EPA regulations require that all NPDES permits issued meet applicable water quality standards. 40 C.F.R. § 122.4(d). As shown through previous Tribe, EPA and WDOE modeling on the Lower Arm of the Spokane River, the current loading scenario of the TMDL do not meet the Tribe's dissolved oxygen standards. The modeling determined that the primary limiting factor for the failure to meet the Tribe's water quality standards for dissolved oxygen was sediment oxygen demand ("SOD").

As raised in the Tribe's November 17, 2010 comments on the other draft NPDES permits and the June 2011 Inland Empire Paper Company amended draft permit, the Tribe recommends that the dischargers be required to maintain low levels of oxygen demanding pollutants year round. This recommendation is based on the significant increase in pollutant concentrations in the Tribe's waters during the winter months that contribute to the SOD problem seen during the critical season. Furthermore, Portland State's modeling clearly indicated that discharges in all of the winter months cause and contribute to water quality violations in the critical season. The Tribe reiterates this concern again here. The Tribe strongly urges WDOE to require in this new permit year-round effluent limits for CBOD, P and Ammonia.

3. Technical Error

On page nine section S1.C under Total PCBs, it states see sections "S13, S14, and footnote h." There is no S14.

Conclusion

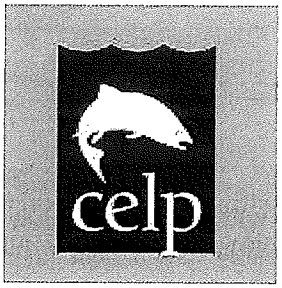
The Tribe has provided comments and input to WDOE throughout the development of this permit and the four others along the Spokane River, and the Tribe wishes to thank WDOE in advance for its consideration of the Tribe's concerns.

Sincerely,

for BJ Kieffer

B.J. Kieffer
Director
Spokane Tribal Natural Resources Department

Cc: Gregory Abrahamson, Chairman, Spokane Tribe of Indians
Brian Crossley, Spokane Tribe, Water and Fish Program Manager
Laurie Mann, EPA
Brian Nickel, EPA
Mike Lidgard, EPA
Ted C. Knight, Attorney for the Spokane Tribe of Indians



SIERRA CLUB
FOUNDED 1892

September 30, 2011

Permit Coordinator, Water Quality Program
Washington Department of Ecology
4601 N. Monroe
Spokane, WA 99210

Sent via e-mail to: stra461@ecy.wa.gov and jbel461@ecy.wa.gov

Re: Spokane County Wastewater Treatment Plant
Draft NPDES Permit/Fact Sheet No. WA-009331-7

Dear Permit Coordinator:

These comments are submitted on behalf of Sierra Club Upper Columbia River Group and the Center for Environmental Law & Policy regarding the proposed discharge permit for the Spokane County Wastewater Treatment Plant.

1) The Tier II anti-degradation requirements for a new discharge are disregarded and should be a basis for denial of the permit. Each water quality parameter with reasonable potential to be impacted should be quantified, along with demonstration of how it will not be degraded from existing conditions. This should include all potential toxins created in the chlorinated disinfection process.

2) New proposed limits differ from the approved Dissolved Oxygen TMDL. These limits cannot be included in the permit unless and until the TMDL is formally modified.

3) Spokane River water quality conditions that are better than the assigned water quality criteria, even if seasonally, define the target concentrations to be met at the edge of the allowable mixing zone. The new discharge cannot degrade existing water quality conditions. AKART for each such pollutant must be identified and implemented before a discharge can be permitted.

4) Chlorine disinfection is not AKART. It introduces unnecessary pollutants into the river including potential carcinogens that would not be present using other disinfection methods such as ultra-violet. The formation and discharge of these pollutants is counter to the Tier II anti-degradation concept.

5) The fecal bacteria effluent limits are not consistent with the justification in the fact sheet and ignore Tier II anti-degradation. Water quality-based limits using existing water quality should be the basis of the permit limit.

6) Spokane Valley industrial user wastewater will be less dilute from domestic sources than influent to the existing Spokane City plant. Thus, higher concentrations of toxic chemicals will enter the County plant from industrial sources and likely be present in the effluent. This analysis is absent in the permit/fact sheet.

7) There is no technical basis presented to support selection of the effluent limits for toxic compounds. The calculations should clearly present and explain the basis for these limits.

8) The only technical evaluation presented in the fact sheet is for ammonia and shows the maximum expected effluent concentration to be 13 ug/L and the critical pH to be 7.0. Yet the permit authorizes more than a thousand times higher concentration of ammonia and allows the effluent to be discharged at a pH of 9.0, which will exacerbate ammonia toxicity. Meanwhile, the receiving stream critical conditions seem to be fabricated for the river reach where the discharge will occur and do not conform to the DO TMDL modeling of 2001 critical conditions.

9) Concentration limits must be based on approved design performance, along with mass loading limits to prevent operation of the plant at less than peak performance at all times.

10) It is inappropriate to include no limit for PCB in a new discharge permit for a discharge where the River is already water quality limited for PCBs.

11) Moreover, it is illegal to permit a new source to discharge PCBs, dioxins and other water quality parameters listed on the 303(d) list if no TMDL is in place to demonstrate that the River is capable of meeting the relevant water quality standards with the new discharge, including both Washington state and Spokane Indian Tribe standards.

12) Requiring only 4 PCB samples per year will fail to characterize the significant discharges for a PCB limited water body and development of cleanup plan.

13) Applying City of Spokane 30-year old performance-based numbers to a new construction discharge permit for metals in a metals-limited stream is inappropriate. The metals partitioning language is not appropriate because this discharge is not part of the Spokane River metals TMDL.

14) The Regional Toxics Task Force provisions are vague and unenforceable, and do not substitute for either a PCB TMDL or appropriate effluent limits.

Thank you for the opportunity to provide comments. We look forward to your responses.

Sincerely,

Rachael P Osborn

Rachael Paschal Osborn
509-209-2899 / rosborn@celp.org / on behalf of:

Center for Environmental Law & Policy
25 W. Main, Suite 234, Spokane, WA 99201

Sierra Club Upper Columbia River Group
PO Box 413, Spokane, WA 99210

SPOKANE COUNTY

UTILITIES DIVISION
N. BRUCE RAWLS, P.E., DIRECTOR
A DIVISION OF THE PUBLIC WORKS DEPARTMENT

September 16, 2011

Richard Koch, PE - Permit Coordinator
Department of Ecology
Water Quality Program
4601 N. Monroe Street
Spokane, WA 99205-1295

Subject: Review Comments for DRAFT PERMIT
NPDES Permit No. WA-009331-7
Spokane County Regional Water Reclamation Facility

Dear Richard:

Thank you for the opportunity to review the Draft NPDES Permit for the Spokane County Regional Water Reclamation Facility. This letter summarizes several key comments for that Permit and also references our full suite of comments enclosed with this letter.

KEY COMMENTS

The following issues are summarized below to highlight several key aspects of our permit.

Single Effluent Limits Table

For clarity and simplification in establishing effluent limits, Table S1.B.a should be retained as the single effluent limits table in the NPDES permit, and Table S1.A should be moved to the Fact Sheet as supporting information that documents the linkage between the TMDL and the Discharge Limits. Table S1.B.b can be deleted because we do not intend to utilize that scenario for our Facility.

pH of 6.0 – 9.0 vs. pH of 7.0 – 9.0

Table S1.C should be modified to include an additional line of effluent limits for pH based on the treatment technology range of a Daily Minimum of 6.0 and a Daily Maximum of 9.0, which would apply when adequate pH and alkalinity is present in the Spokane River to alleviate the need for the narrower water quality based effluent limit of 7.0 to 9.0. Footnote 'e' to Table S1.C should be modified to include the sentence "*The technology based effluent limit for pH of 6.0 to 9.0 shall apply when Spokane River water quality monitoring for pH and alkalinity demonstrates that water quality based effluent limits for pH are unnecessary.*"

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Offset and Equivalency Considerations

Spokane County's 2010 Wastewater Facilities Plan Amendment was approved by Ecology on December 14, 2010. In that document, Chapter 11 (Phosphorus Management Plan) and Chapter 12 (Dissolved Oxygen TMDL Parameters) address Offset and Equivalency Considerations. Both of these considerations should be clearly incorporated into the permit language to allow the County to operate our Water Reclamation Facility consistent with its design.

Mixing Zone Dilution Factors

The dilution factors in Fact Sheet Table 12 - "Ecology Determined Dilution Factors (DF)," that are used for chronic and acute mixing zone dilution rate, are based on information that is outdated. Please consider updating those dilution factors, and correspondingly, the effluent limits.

Clarification of Analytical Detection/Quantitation Limits

To clarify requirements on reporting data, revise Appendix A to include the recommended language from EPA re: Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits per the EPA memo dated April 25, 2005.

Ambient Background Data for Metals

We are resubmitting the Technical Memorandum from Brown & Caldwell (dated May 16, 2011) pertaining to water hardness in the Spokane River. We believe the available data from monitoring station 57A150 at State Line is overly restrictive and request the hardness value be adjusted once representative data becomes available.

Other Edits and Comments

As noted above, our remaining edits and comments are contained in the enclosed documents submitted with this letter. We look forward to coordinating with you and Ecology on this important NPDES permit for Spokane County.

Sincerely,
SPOKANE COUNTY UTILITIES

N Bruce Rawls

N. Bruce Rawls, PE
Utilities Director

Enclosures:
12 pages of Review Comments dated September 16, 2011 re: Draft NPDES permit & Fact Sheet
3-page Tech Memo from Brown & Caldwell dated May 16, 2011

Cc: Dave Moss, Spokane County
Lori Terry-Gregory, Foster Pepper
Dave Clark, HDR
Adam Klein, Brown & Caldwell
Rick Smith, CH2M Hill

Review Comments -- National Pollutant Discharge Elimination System -- Spokane County Waste Discharge Permit No. WA-009331-7

Comment 1. Section S1. Discharge Limits (p 7): Clarify the second paragraph to specifically authorize discharge from the Spokane County Regional Water Reclamation Facility.

Requested Revision 1: The first sentence of the second paragraph should be revised so that the word *"may"* is replaced with *"is authorized."* The revised sentence should read as follows: *"Beginning on the ... the Permittee is authorized to discharge ..."* The revised language is important because it contains a clear authorization to discharge and is consistent with other Washington State NPDES permits.

Comment 2. Section S1. Discharge Limits. Tables S1.A, S1.B.a and S1.B.b. (pp 7-8): The draft NPDES permit presents three effluent limits tables, each representing a different combination of limits for the TMDL parameters Carbonaceous Biochemical Oxygen Demand (CBOD), Total Phosphorus, and Total Ammonia. Table S1.A represents the TMDL modeling scenario and Tables S1.B.a and S1.B.b represent alternative combinations of parameters that also satisfy the TMDL. The concern with the presentation of three effluent limits tables is potential confusion about which limits apply. Table S1.B.a best represents the effluent limits that the Spokane County Regional Water Reclamation Facility (SCRWRF) is designed to meet.

Requested Revision 2: Table S1.B.a should be retained as the single effluent limits table in the NPDES permit for clarity and Table S1.A should be moved to the Fact Sheet as supporting information that documents the linkage between the TMDL and the Discharge Limits.

Comment 3. Section S1. Discharge Limits. Tables S1.A, S1.B.a., S1.B.b. and S1.C footnote 'd' (pp 7-9): Footnote 'd' does not appear in Tables S1.A, S1.B.a, S1.B.b, or S1.C.

Requested Revision 3: Add a footnote 'd' into the tables, or delete if not applicable. It appears from the text of footnote 'd' that it was intended to apply to the Daily Maximum column of the tables.

Comment 4. Section S1. Discharge Limits. Table S1.C footnote 'd' (pp 7-9): Table S1.C makes reference to "Total PCBs see section S13, S14 and footnote 'h';" however there is no Section S14.

Requested Revision 4: Replace with "Total PCBs see section S12, S13 and footnote 'h'."

Comment 5. Section S1. Discharge Limits. Table S1.C. (p 9): Table S1.C Effluent Limits for Remaining Pollutants includes a water quality based effluent limit for pH with a Daily Minimum of 7 and a Daily Maximum of 9. The Fact Sheet states that "Under critical conditions, modeling predicts a violation of the pH criteria for the receiving water if the effluent pH drops below 7.0 with an ambient alkalinity of 40 mg/L $CaCO_3$ or less." The concern is that this pH range is narrower than the expected treatment technology based range of Daily Minimum of 6.0 and a Daily Maximum of 9.0 and unnecessarily restrictive. Expected effluent quality from the SCRWRF facility may tend towards the lower end of the range and be lower than pH 7.0 based on chemical treatment to produce low phosphorus and

nitrification to control effluent ammonia and should not result in a violation of discharge limits since receiving water conditions are expected to be better than the pH and alkalinity assumptions used in the Ecology modeling prediction.

Requested Revision 5: Table S1.C should be modified to include an additional line of effluent limits for pH based on the treatment technology range of a Daily Minimum of 6.0 and a Daily Maximum of 9.0, which would apply when adequate pH and alkalinity is present in the Spokane River to alleviate the need for the narrower water quality based effluent limit. Footnote 'e' to Table S1.C should be modified to include the sentence *"The technology based effluent limit for pH of 6.0 to 9.0 shall apply when Spokane River water quality monitoring for pH and alkalinity demonstrates that water quality based effluent limits for pH are unnecessary."*.

Comment 6. Section S1. Discharge Limits. Table S1.C. footnote 'e' (p 9): Footnote 'e' does not match the pH limits shown in Table S1.C or reflect continuous monitoring.

Requested Revision 6: Replace the daily minimum of 6.0 with the following language: *"When pH is continuously monitored, excursions will be examined to confirm they are not a result of probe malfunction, calibration, power failure, or for unanticipated equipment repair or maintenance not related to water conditions. Excursions between 5.0 and 6.0 or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly."*

Comment 7. Section S1. Discharge Limits. Table S1.C. (p 9): Limits for metals (cadmium, lead, zinc) have been included in the draft permit, but there are no treatment plant performance data from the new Spokane County facility to support these performance based numerical effluent limits. Ecology intends to establish treatment performance based effluent limits for cadmium, lead, and zinc because there are TMDLs for these metals in the Spokane River. However, effluent limits should be based on actual plant performance, which is not yet available.

The Fact Sheet discussion addresses the current unknowns:

- *"The Heavy Metals TMDL requires either a performance based limit or a water quality based limit using the end of pipe hardness which is unknown. Ambient concentrations for Cadmium, Lead and Zinc exceed the water quality standards. The calculations for reasonable potential require a maximum effluent concentration which isn't available. Instead, the County's permit application proposed to use the effluents limits for the Riverside Park Water Reclamation Facility under the assumption that the influent pollutant concentrations would be similar. The SCRWRF will also be employing the next level of treatment, chemical addition and filtration, and would be expected to provide better metals removal than the current Riverside Park Water Reclamation Facility. Additionally, the SCRWRF has a larger dilution factor so that using RPWRF effluent limits for metals is deemed to be conservative and acceptable until operational data is available."*

While the treatment performance from the SCRWRF is expected to be excellent, because there is no actual data yet, we cannot know with certainty whether the numerical limits included in the draft permit can be met.

Requested Revision 7: We request that the numerical limits for these parameters be removed from Table S1.C and replaced with a footnote 'i' that reads as follows; *"Following the initial year or two of operation of the SCRWRF, effluent data for the facility will be analyzed to develop performance based effluent limits to enter into Table S1.C for cadmium, lead, and zinc based on actual plant performance."*

Alternatively, if Ecology elects not to remove numerical limits from the permit limits table, the permit should specifically authorize a permit modification to revise the numerical effluent limits when treatment performance data becomes available. In this regard, we request footnote 'i' be added to Table S1.C. is as follows: *"Following the initial year or two of operation of the SCRWRF, effluent data for the facility will be analyzed to develop performance based effluent limits to modify, if necessary, the initial effluent limits for cadmium, lead, and zinc included in Table S1.C."*

Comment 8. Section S1. Discharge Limits. Table S1.C. (p 9): Daily maximum heading above metals in the table should not have a footnote callout.

Requested Revision 8: Table S1.C. delete footnote 'e' from the column of metals limits heading Maximum Daily.

Comment 9. Section S1. Discharge Limits. Table S1.C. Footnote 'a' (p 9): The text from footnote 'a' is confusing: *"Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote 'c' for fecal coliform calculations."* If multiple measurements are taken in a single day, it is unclear whether those are averaged for a daily value, which is then used to calculate the average monthly, or whether all measurement taken are averaged for the month. The publication 0410020 Information Manual for Treatment Plant Operators states that all data are averaged.

Requested Revision 9: Replace footnote 'a' with the following: *"Average monthly effluent limit means the highest allowable average of discharges over a calendar month. Ecology provides directions to calculate the statistic in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf."*

Comment 10. Section S1. Discharge Limits. Table S1.C. Footnote 'b' (p 9): Footnote 'b' is unclear: *"Average weekly discharge limitation means the highest allowable average of ``daily discharges'' over a calendar week, calculated as the sum of all ``daily discharges'' measured during a calendar week divided by the number of ``daily discharges'' measured during that week. See footnote 'c' for fecal coliform calculations."* It is unclear why "daily discharges" is in quotations and what the quotation means.

Requested Revision 10: Replace footnote 'b' with the following: *"Average weekly discharge limitation means the highest allowable average over a calendar week. Ecology provides directions on how to calculate the statistic in publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: http://www.ecy.wa.gov/pubs/0410020.pdf."*

Comment 11. Section S1. Discharge Limits. Table S1.C. Footnote 'f' (p 10): Table S1.C footnote 'f' addresses the basis for compliance with effluent limitations for CBOD5, NH3-N and TP on a seasonal mass basis. However, footnote 'f' in the draft permit calls for a public review of the seasonal loading analysis that is unnecessary because the Wastewater Facility Plan already addressed these issues. The Wastewater Facility Plan was developed through a process that included public review and approval by Ecology. Spokane County, in its 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on December 14, 2010), addressed the issue of equivalencies between the TMDL parameters in Chapter 12 Dissolved Oxygen TMDL Parameters.

The CE-QUAL-W2 water quality model of the Spokane River was the tool used to develop the Spokane River TMDL and determine the allowable loadings for the desired dissolved oxygen concentrations. The CE-QUAL-W2 model represents specific flows and other conditions, including discharge constituent concentrations from the Spokane County Regional Water Reclamation Facility and may serve as the basis for parameter equivalencies and offset credits for compliance with effluent limits. An additional public review process is unnecessary and would be cumbersome when assessing seasonal loadings for compliance with permit limits.

Requested Revision 11: Table S1.C footnote 'f' part 2) should be modified to read as follows *"2) a combining of effluent quality and pollutant equivalencies. Pollutant equivalencies shall be determined based on DO TMDL oxygen depletion and pollutant credit earned from implementation of the Offset Plan included in the 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on Dec. 14, 2010)."*

Comment 12. Section S1. Discharge Limits. Table S1.C. Footnote 'f' (p 10): The draft permit does not include Interim performance based limits during the initial 2-year period for optimization of the new facility, which was specifically provided for in the final approved Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report dated February 2010 (TMDL). Interim Performance Based Limits are authorized on page 63 of the TMDL. Page 62 of the TMDL provides for "delta elimination" as allowed under the Washington State offset rule (WAC 173-201A-450).

Spokane County, in its 2010 Wastewater Facilities Plan Amendment, (approved by Ecology on December 14, 2010), addressed the issue of Interim Performance Based Limits on page A12-9. In that chapter, Spokane County stated how the new facility proposed to meet the wasteload allocations, provided in the TMDL, upon start-up.

Chapter 11 (Phosphorus Management Plan), of the Facilities Plan Amendment provides a detailed discussion of the Spokane County approach to delta elimination, which is specifically authorized in the TMDL. That Chapter concludes that Spokane County will generate a minimum of 12 pounds per day of phosphorus offsets (delta elimination), and perhaps more than 20 pounds per day of phosphorus offsets. At the very least, Spokane County has demonstrated an offset credit of 2,928 pounds for the TMDL season from March through October.

Spokane County's NPDES permit application requested Interim Performance Based Limits for the initial 2-year period for optimization of the new facility. Please refer to pages A-1 through A-3 of our draft permit application, plus the two page memorandum by CH2M HILL immediately following. Based on our review of the potential performance of the new facility with our contract operator, we concluded that up to 229 pounds of phosphorus from the County's delta elimination offset credit could be necessary for each TMDL season during the first two years of operation. Because we have demonstrated an offset credit of 2,928 pounds of seasonal credit, we have requested to use up to 229 pounds during each of the initial two TMDL seasons, which provides a safety factor of at least 10 to 1.

Requested Revision 12: Table S1.C footnote 'f' be modified to add the following language: *"3) a combining of load reduction credits earned from implementation of the Offset Plan included in the 2010 Wastewater Facilities Plan Amendment (approved by Ecology on December 14, 2010) used to demonstrate compliance with effluent limits for TMDL parameters either as direct offsets in terms of the mass of phosphorus, or in terms of pollutant equivalencies demonstrated by water quality modeling."*

Comment 13. Section S1. Discharge Limits. Table S1.C. Footnote 'h' (p 10): Table S1.C includes a footnote 'h' regarding PCBs: *"The effluent monitoring results for PCBs will be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle."* Because there are no discharge limits for PCBs in the table, footnote 'h' does not apply to the effluent limits table.

Requested Revision 13: Delete footnote 'h' that reads: *"The effluent monitoring results for PCBs will be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle."* and place it in Section S.12.

Comment 14. Section S1.D Mixing Zone Authorization, Mixing Zone for Outfall No. 001 (p 10): Second table under S1.D under the heading of Mixing Zone for Outfall No. 001 is not labeled.

Requested Revision 14: Section S1.D Mixing Zone Authorization, the second table should be titled *"Approved Dilution Factors."*

Comment 15. Section S1.D Mixing Zone Authorization, Mixing Zone for Outfall No. 001 (p 10): The dilution factors in Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)," that are used for chronic and acute mixing zone dilution rate are based on information that is outdated. The Fact Sheet states that Ecology determined the dilution factors in Table 12 using a summer 7Q20 of 573 cfs and a winter 7Q20 of 1047 cfs (Pelletier 1997), however, the TMDL modified the minimum flow in the Spokane River to a higher level and more recent dilution information is available from the outfall design. Because Ecology used the outdated dilution factors for reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals the reasonable potential analysis, and potentially the resulting effluent limits, may need to be revised.

Requested Revision 15: Update the reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals based on the TMDL modified minimum flow conditions and final outfall design dilution. This should result in a modification to the subject effluent limits.

Comment 16. Table S2. Monitoring Requirements, footnote '4' (p 11): Footnote '4' Table S2 is related to maximum and minimum pH and does not apply to Arsenic, Copper, Lead, Zinc, Mercury, and Silver.

Requested Revision 16: Delete footnote '4' from metals parameters Arsenic, Copper, Lead, Zinc, Mercury, and Silver.

Comment 17. Table S2. Monitoring Requirements, footnote '5' (p 11): Footnote '5' Table S2 is related to fecal coliform and does not apply to toxics parameters.

Requested Revision 17: Delete footnote '5' from toxic parameters.

Comment 18. Table S2. Monitoring Requirements, footnote '6' (p 11): Footnote '6' Table S2 is related to CBOD and does not apply to toxics parameters.

Requested Revision 18: Delete footnote '6' from toxic parameters.

Comment 19. Table S2 Part (3) Whole Effluent Toxicity – Final Wastewater Effluent (p 13): Minimum sampling frequency shown as Quarterly in 2014 does not agree with Section S10.A and S11.A which states testing must begin by July 30, 2012.

Requested Revision 19: Resolve discrepancy between start dates by changing Section S10.A and S11.A to 2012 & 2013 (see Comments 31 and 38).

Comment 20. Table S2. Monitoring Requirements, footnote '12' (p 13): Footnote '12' is about maximum and minimum pH similar to footnote '4' and does not apply to Dissolved Oxygen.

Requested Revision 20: Delete footnote '12' from Dissolved Oxygen.

Comment 21. Table S2 footnote '3' (p 14): Footnote '3' in Table S2 cites a CBOD % removal for CBOD that is not included in the monitoring requirements;

Requested Revision 21: Delete CBOD from footnote '3'.

Comment 22. Section S2. Monitoring Requirements, Footnote '18'. (p 15): Footnote '18' includes provisions that do not apply to Spokane County and appears to be a footnote taken from the City of Spokane NPDES discharge permit reading "Beginning March 1, 2018; for the 3 parameters... to correct any trend potentially resulting in noncompliance."

Requested Revision 22: Footnote '18' should be deleted from the Monitoring Requirements table.

Comment 23. Section S2. Monitoring Requirements, Footnote '19'. (p 15): Footnote '19' on Ammonia does not appear in Table S2 and appears to conflict with Appendix A.

Requested Revision 23. Delete footnote '19'.

Comment 24. Section S2. Monitoring Requirements, Footnote '20'. (p 15): Footnote '20' on Phosphorus does not appear in Table S2 and appears to conflict with Appendix A.

Requested Revision 24: Delete footnote '20'.

Comment 25. Section S2. Monitoring Requirements, Footnote '21'. (pp 15-16): Footnote '21' does not appear in Table S2 and appears to conflict with Appendix A. Specifically, Footnote '21' conflicts with EPA Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005), which states that *"For purposes of calculating monthly averages, zero may be assigned for values less than the MDL,..."*. Footnote '21' second bullet conflicts with EPA guidance:

- *"For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period."*

Requested Revision 25A: Delete footnote '21'.

As identified in the Fact Sheet in Section IV Monitoring Requirements C. Effluent Limits Which are Near Detection or Quantitation Levels, reference should be made to incorporate the recommended text for permit writers.

Requested Revision 25B: Revise Appendix A to include the recommended language from EPA on Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) which states that *"For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}". If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance."*

Comment 26. Section S2.A. Sampling and Analytical Procedures (p 16): This section should be revised to read as follows so that the provision is consistent with other NPDES permits.

Requested Revision 26A: Second sentence, the words *"that may affect"* should be changed to *"affecting,"* so that the sentence reads as follows: *"The Permitte must . . . affecting effluent quality."*

Requested Revision 26B: The second sentence should be revised so that the following language is added to the end of the sentence: *"or to the latest revision of Standard Methods for the Examination of Water and Wastewater (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department)."* This language is consistent with other NPDES permits.

Comment 27. Section S3.D Additional Monitoring by the Permittee (p 19): This section should be revised to read as follows so that the provision is consistent with other NPDES permits.

Requested Revision 27: The permit language should be replaced with the following language, which is consistent with other NPDES permits: *"If the Permittee monitors any pollutant more frequently than required by Condition S2 of the permit using test procedures specified by Condition S2 of this permit, then the results of such monitoring shall be included in the calculation and reporting of the data submitted in*

the Permittee's DMR." This language is important, particularly with a new treatment plant where there will likely be additional monitoring conducted using test procedures other than required by the permit. This additional data should not be required to be reported in the DMR.

Comment 28: Section S3.E Reporting permit violations (p 19): For the dissolved oxygen TMDL parameters, the following wording may not be appropriate: *"1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem."*

Requested Revision 28: Revise the language for TMDL oxygen consuming parameters by adding the following: *"Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem. Because oxygen consuming pollutants do not cause an immediate human or environmental risk, the limits are extremely low, and the treatment processes are new, the Department will work with the Permittee to correct the problem within a negotiated schedule that is practical and feasible."*

Comment 29. Section S6. Pretreatment, S6.A.5.b. Pretreatment Report (p 31): There are four references to Section S7. which are remnant of the text in the NPDES permit for Spokane's RPWRF. In this NPDES permit for the County's SCRWRF, those phrases should reference Section S6.

Requested Revision 29: Change the four references in Section S6.A.5.b. as follows: S7.B. to S6.B.; S7.A.6. to S6.A.1. *(there is no S6.A.6.)*; S7.C. to S6.C.; and S7.D. to S6.D.

Comment 30. Section S6. Pretreatment, S6.D. Local Limit Update (p 34): Section S6.D. requires that the County update its local limits by August 15, 2012. Under this timeline the SCRWRF will likely have been operating for less than one year. Given that the facility is brand new, a longer period of initial operation is requested to allow a longer period to collect relevant data for subsequent analysis and use.

Requested Revision 30: Change the date of August 15, 2012 to be August 15, 2013 which allows collection of relevant data to be used for establishing local limits for the County's SCRWRF.

Comment 31. Section S10. Acute Toxicity, S10.A. Effluent characterization (p 37): Section S10.A which states testing must begin by July 30, 2012 conflicts with Table S2 Minimum sampling frequency shown as Quarterly in 2014.

Requested Revision 31: Resolve discrepancy between dates (see Comments 19 and 38).

Comment 32. Section S10. Acute Toxicity, S10.A.2 Effluent characterization (p 37): Section S10.A refers to Section G which does not exist.

Requested Revision 32: Replace Section G with reference to Section S10.F.

Comment 33. Section S10. Acute Toxicity, S10.A.2 Effluent characterization (p 38): Section S10.B which refers to "defined in Section S1.B of this permit" which should reference S1.D.

Requested Revision 33: Replace with "defined in Section S1.D of this permit."

Comment 34. Section S10. Acute Toxicity, S10.B. Effluent limit for acute toxicity (p 38): The dilution factor stated for acute critical effluent concentration (ACEC) is 56.5% based on the Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)." These dilution rates should be revised to eliminate the historical Ecology information that is outdated and to incorporate the TMDL modified minimum flow in the Spokane River.

Requested Revision 34: Revise the reference to the ACEC in Section S10.B Effluent limit for acute toxicity to account for revisions in the dilution rates as follows: *"The ACEC shall be the percentage of effluent consistent with the effluent dilutions rates for aquatic life in Section S1.D Mixing Zone Authorization."*

Comment 35. Section S10. Acute Toxicity, S10.D. Compliance testing for acute toxicity (p 38): Section S10.D.2 states "Testing must begin by October 1, 2013." This date appears inconsistent with the date in Section S10.A.1 of July 30, 2012.

Requested Revision 35A: Replace the date with "... **July 30, 2012** (assuming that is the correct date).

Requested Revision 35B: Note: there are several dates in the permit that need to be in **bold text.**

Comment 36. Section S10. Acute Toxicity, S10.D. Compliance testing for acute toxicity (p 38): Section S10.D refers to Section G which does not exist.

Requested Revision 36: Replace Section G with reference to Section S10.F.

Comment 37. Section S10. Acute Toxicity, S10.D. Compliance testing for acute toxicity (pp 38-39): Section S10.D items 2, 3, and 4 are repeated from Section S10.A.

Requested Revision 37: Delete repeated items 2, 3, and 4 from Section S10.A.

Comment 38. Section S11. Chronic Toxicity, S11.A Effluent characterization (p 41): Section S11.A which states testing must begin by July 30, 2012 conflicts with Table S2 Minimum sampling frequency shown as Quarterly in 2014.

Requested Revision 38: Resolve discrepancy between dates (see Comments 19 and 31).

Comment 39. Section S11. Chronic Toxicity, S11.A Effluent characterization (p 41): Section S11.A refers to Section G which does not exist.

Requested Revision 39: Replace Section G with reference to Section S11.F.

Comment 40. Section S11. Chronic Toxicity S11. A. Effluent characterization (p 41): The dilution factor stated for acute critical effluent concentration (ACEC) is 56.5% effluent and the chronic critical effluent concentration (CCEC) is 8.4% effluent based on the Fact Sheet Table 12, "Ecology Determined Dilution Factors (DF)." These dilution rates should be revised to eliminate the historical Ecology information that is outdated and to incorporate the TMDL modified minimum flow in the Spokane River.

Requested Revision 40: Revise the reference to the ACEC and CCEC in Section S10.B Effluent limit for acute toxicity to account for revisions in the dilution rates as follows: *"The ACEC shall be the percentage*

of effluent consistent with the effluent dilutions rates for aquatic life in Section S1.D Mixing Zone Authorization."

Comment 41. Section S11. Chronic Toxicity, S11.B. Effluent limit for chronic toxicity (p 41): Section S11.B makes reference to *"defined in Section S1.B of this permit"* which should be Section S1.D.

Requested Revision 41: Replace with *"defined in Section S1.D of this permit."*

Comment 42. Section S11. Chronic Toxicity, S11.D Compliance testing for chronic toxicity (p 42): Section S11.A refers to Section G which does not exist.

Requested Revision 42: Replace Section G with reference to Section S11.F.

Comment 43. Section S11. Chronic Toxicity, S11.D Compliance testing for chronic toxicity (p 42): Section S11.D items 6 and 3 are not in numerical order.

Requested Revision 43: Replace item "6: with "3" and "3" with "4" to correct for numerical order.

Comment 44. Section S11. Chronic Toxicity, S11.D Compliance testing for chronic toxicity (pp 42-43): Section S11.D items 2, 3, and 4 are repeated from Section S11.A.

Requested Revision 44: Delete repeated items 2, 3, and 4 from Section S11.A.

Comment 45. Section S12. Toxics Source Control Action Plan (p 45): This section calls for an Annual Toxics Management Report to be prepared for specific toxics of that are "PCBs; 2,3,7,8 TCDDs and PBDE". However, there is no water quality impairment listing for PBDE on the Spokane River. Further, recent news releases from Ecology indicate that PBDE levels in the river are declining: "The concentrations of toxic flame retardants called PBDEs in fish tissues from the Spokane River are higher than any other tested area in Washington state, but recent studies indicate levels of those toxics may actually be dropping. In addition, osprey eggs collected along the Spokane River in 2009 all contained PBDEs, but the amount was generally too low to harm the reproductive success of ospreys." (Ecology, March 11, 2011). Since PDBE levels are falling and Ecology's urban waters team is actively looking for sources of PBDEs on the Spokane River, it is not appropriate to include PDBEs in the Annual Toxics Management Report.

Requested Revision 45: Revise the specific parameters to be addressed in the Toxics Management report to read as follows: *"The toxics of specific concern for this report are PCBs and 2,3,7,8 TCDDs."*

Comment 46. Section S12. Toxics Source Control Action Plan (p 46): Section S12 includes language that implies that future discharge permits will include numerical effluent limitations for PCBs: *"The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle."* It is important that performance based PCB limits be developed based on what the actual SCRWRF treatment technology can consistently achieve such that compliance is feasible.

Requested Revision 46: Following the third paragraph on page 46 that reads: "*The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle.*" Add the following: "The effluent monitoring results shall be compiled and analyzed by Ecology for the purpose of establishing a performance based PCB effluent limitation for the following permit cycle, provided that the performance based limit must be consistently achievable by the existing SCRWRF treatment technology."

Comment 47. Appendix A List of Pollutants with Analytical Methods, Detection Limits, and Quantitation Levels (p 55): As identified in the Fact Sheet in Section IV Monitoring Requirements C. Effluent Limits Which are Near Detection or Quantitation Levels, reference should be made to EPA Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) to incorporate the recommended text for permit writers.

Requested Revision 47: Revise Appendix A to include the recommended language from EPA on Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) which states that "*For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}". If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.*"

Comment 48. Appendix A Table for Conventional Parameters (p 55): Compliance with effluent limits for BOD and ammonia nitrogen will require the use of analytical measurement results that are below the Quantitation Levels identified in the table presented in Appendix A. Clarification is needed to address use of numerical laboratory results that are less than the Quantitation Levels.

Requested Revision 48: Revise Appendix A to include the following: "*Effluent reporting for permit compliance will utilize the actual value when analytical laboratory results are below the Quantitation Levels specified in the table below, and when less than the Detection Limit will use zero.*"

Comment 49. Summary of Permit Report Submittals (pp 5-6): Several items in the summary table should be considered for addition or review/revision as follows:

Proposed Action	Permit Section	Submittal	Frequency	First Submittal Date
Add	S6.D.	Local Limit Update	1/permit cycle	August 15, 2013[1]
Add	S6.E.	Mercury Abatement and Control Plan	1/permit cycle	February 15, 2016
Revise	S10.D.	Acute Toxicity Compl. Monit. Repts.	1/permit cycle	October 31, 2012[2]
Revise	S11.D.	Chronic Toxicity Compl. Monit. Repts.	1/permit cycle	October 31, 2012[3]
Notes: [1]-see Comment 30; [2]-see Comments 19 & 31; [3]-see Comments 19 & 38				

Requested Revision 49: Consider the proposed additions and revisions listed in the table above.

Fact Sheet

Comment FS-1. Section III. Proposed Permit Limits, Table 6 (FS p 15): The receiving waterbody hardness is defined as 23.9 mg/L as $CaCO_3$, based on monitoring data from the Department of Ecology's station 57A150 at the Stateline Bridge. This value is lower than recent observations at the Greene Street Bridge, and much lower than observations at the Department of Ecology monitoring station 54A090. Because the planned outfall will be located about mid-way between Ecology monitoring stations 57A150 and 54A090, and quite close to the Greene Street Bridge, a more representative hardness estimate would consider a wider sample of data. The May 16, 2011 Technical Memorandum (Brown and Caldwell, May 16, 2011) establishes an average hardness of 50.5 mg/L as $CaCO_3$ for the Greene Street Bridge location based on existing monitoring information.

Requested Revision FS-1: Ecology should utilize an average hardness of 50.5 mg/L as $CaCO_3$ for all hardness based effluent limits in this NPDES permit period. Upon permit reissuance, a new hardness value, based on continued sampling at the Greene Street Bridge, or other appropriate nearby location, should be applied.

Comment FS-2. Section III. E. Dilution Factors, Table 12 (FS p 26): The Table 12 Ecology Determined Dilution Factors (DF) are based on information that is outdated. The Fact Sheet states that "Ecology determined the dilution factors in Table 12 using a summer 7Q20 of 573 cfs and a winter 7Q20 of 1047 cfs (Pelletier 1997), however the TMDL has modified the minimum flow in the Spokane River at a higher level and more recent dilution information is available from the outfall design. Since Ecology used the outdated dilution factors for reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals the reasonable potential analysis, and potentially the resulting effluent limits, may need to be revised.

Requested Revision FS-2: Update the reasonable potential analysis for Temperature, pH, Fecal Coliform, Chlorine, Ammonia, Toxicity, and Metals based on the TMDL-modified minimum flow conditions and final outfall design dilution. This should result in modification to subject effluent limits.

Comment FS-3. Section IV. Monitoring Requirements C. Effluent Limits Which are Near Detection or Quantitation Levels (FS p 37): The text in the last paragraph (top of page 37) is confusing and refers generally only to USEPA guidance. Specific reference should be made to the EPA Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) to incorporate the recommended text for permit writers.

Requested Revision FS-3: Revise Appendix A to include the recommended language from EPA on Guidance on Water Quality Based Effluent Limits Set Below Analytical Detection/Quantitation Limits (EPA, April 25, 2005) which states that *"For purposes of calculating monthly averages, zero may be assigned for values less than the MDL, the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}". If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance."*

BROWN AND CALDWELL

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Technical Memorandum

Project Title: Spokane County Industrial Pretreatment Program

Project No: 135998

Technical Memorandum

Subject: Receiving Water Body Hardness – Spokane River

Date: May 16, 2011

To: Dave Moss, Spokane County

From: Adam Klein, Brown and Caldwell

Background

The Draft NPDES Fact Sheet for the Spokane County Regional Water Reclamation Facility (SCRWRF), published in April, 2011, proposed to use a value of 23.9 mg/L as $CaCO_3$ to represent the ambient hardness in the Spokane River at the Facility's planned Outfall location. The Draft Fact Sheet states that data is from Department of Ecology monitoring station 57A150 at the Stateline Bridge (between Washington and Idaho).

The ambient hardness is critical to assessing the toxicity of various metals in the receiving water body. In particular, surface water quality criteria for cadmium, chromium, copper, lead, nickel, silver, and zinc are all hardness-dependent. The higher the hardness, the lower the toxicity in the receiving water body. This is because high hardness indicates the presence of a large concentration of ionic species in the water. These species, many of which are non-toxic, compete with the toxic metals for binding sites within aquatic organisms, thus reducing the toxic effect of the metals.

Hardness Data

The SCRWRF's Outfall will be located in the Spokane River at River Mile 78.7, just upstream of the Greene Street Bridge. This location is about halfway between the upstream Stateline Bridge and the downstream Ninemile Bridge. The Washington State Department of Ecology has water quality monitoring sites at the state line and at Ninemile Bridge. The state line site regularly collects metals data, including hardness. The Ninemile Bridge site has more limited metals and hardness data. As another possible source of data, Spokane Community College collects water quality samples in the Spokane River as part of its curriculum. Limited student data is available near the Greene Street Bridge. Hence, available hardness data for these three sources are summarized in Table 1.

Table 1. Summary of Available Hardness Data (all values in mg/L $CaCO_3$)

Location	Dates	Samples	Min	Max	Average	Standard Deviation	Standard Error
57A150 Stateline Bridge	2005-2010	33	17.2	77.0	23.3	9.8	0.42
54A090 Ninemile Bridge	2009-2010	7	35.2	131.0	77.8	36.3	0.47
Greene Street Bridge	2010-2011	5	10.0	75.0	36.5	27.4	0.75

The data suggest that hardness increases as the river flows from Stateline Bridge to Ninemile Bridge. The average hardness at the state line is 23.3 mg/L as $CaCO_3$. This is slightly lower than the value proposed in the Draft Fact Sheet (23.9 mg/L as $CaCO_3$), and it is assumed that this is because a different range of years was used to derive that value.

The average hardness of five student samples at Greene Street was 36.5 mg/L $CaCO_3$. However, these data are somewhat questionable, given the high standard error, and the following comment from the instructor:

> "Although we do use approved EPA methods, the reliability and/or accuracy of the data is moderate as this is a training program. Most of the students have collected their laboratory notebooks so data is limited." -David Stasney, *Water Resources Instructor at Spokane Community College*

In particular, two values of 10 mg/L as $CaCO_3$, collected on March 9 and March 10, 2011 appear to be unusually low (the next-lowest value was 42.3 mg/L as $CaCO_3$). If the two low values are omitted, the average of three samples is 54.1 mg/L as $CaCO_3$.

Given that the Greene Street Bridge location is almost halfway between the two Ecology monitoring stations, we propose to use an average hardness from the two locations: 50.5 mg/L as $CaCO_3$. This value is close to the average of the three "reliable" samples from Spokane Community College. Over time, the College will continue to collect data at Greene Street, and a more accurate representation of the hardness can be obtained.

To summarize, it is requested that Ecology use an average hardness of 50.5 mg/L as $CaCO_3$ for this NPDES permit period. Upon permit reissuance, a new hardness value, based on continued sampling at the Greene Street Bridge, or other appropriate nearby location, should be applied.

Thanks to David Stasney, L.G., L.HG., Water Resources Instructor at Spokane Community College for providing data presented in this Technical Memorandum.

Appendix A. Raw Data

Ecology Site 57A150
Stateline Bridge

Date	mg/L as CaCO3
10/4/2005	23.3
12/6/2005	23.6
2/7/2006	23.7
4/11/2006	23
6/6/2006	19.3
8/8/2006	21.7
10/3/2006	21.8
12/5/2006	21.4
2/13/2007	77
4/3/2007	23.1
6/6/2007	19.3
8/8/2007	21.9
10/2/2007	21.6
12/11/2007	22.5
2/19/2008	23.2
4/14/2008	23
6/10/2008	17.2
8/12/2008	18.5
10/14/2008	18.7
12/9/2008	21.8
2/10/2009	23
4/14/2009	22.5
6/9/2009	19.6
8/11/2009	21.6
9/22/2009	20.6
10/12/2009	21.7
12/14/2009	20.8
2/8/2010	22.7
4/12/2010	21
6/14/2010	20.8
8/16/2010	22.5
10/12/2010	22.1
12/20/2010	23.8

Ecology Site 54A090
Ninemile Bridge

Date	mg/L as CaCO3
9/22/2009	131
10/12/2009	100
12/14/2009	60.1
2/8/2010	66.6
4/12/2010	41.8
6/14/2010	35.2
8/16/2010	110

Spokane Community College Sampling
Greene Street Bridge

Date	mg/L as CaCO3
5/7/2010	75
5/21/2010	42.3
2/18/2011	45
3/9/2011	10
3/10/2011	10